

TSD File Inventory Index

Date: 5-29-01

Initial: 2/6

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Note: Transmittal Letter to Be Included with Reports.
Comments: _____

Total 23



ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276 - (217) 782-3397
JAMES R. THOMPSON CENTER, 100 WEST RANDOLPH, SUITE 11-300, CHICAGO, IL 60601 - (312) 814-6026

217/524-3300

ROD R. BLAGOJEVICH, GOVERNOR

DOUGLAS P. SCOTT, DIRECTOR

April 23, 2007

Certified Mail

7004 2510 0001 8616 6089

Ceco Corp.
Attn: Environmental Coordinator
Stephen Street
Lemont, Illinois 60439

Re: 1978030005 -- Will County
Ceco Corp.
ILD990785453
RCRA Permit

Dear Environmental Coordinator:

The Illinois EPA and the United States Environmental Protection Agency (U.S. EPA) have compiled a list of all facilities deemed appropriate and important to address using the Resource Conservation and Recovery Act's (RCRA) Corrective Action Program. Because this set of 3,880 facilities has national remediation goals which will culminate in the year 2020, it is referred to as the 2020 Corrective Action Universe. Your facility is part of this 2020 Universe.

As a result, a final remedy needs to be in place (i.e., remedy construction completed) at your facility by 2020 (although actual attainment of cleanup goals through remedy implementation may take a while longer). If we have not already done so, we will be working with you to develop a plan and a schedule that achieves this goal before 2020.

Your facility has been included in the 2020 Universe because one or more of the following is true:

- It has a RCRA permit obligation,
- Illinois EPA and U.S. EPA agreed that it needs to be addressed under the RCRA Corrective Action Program, as it at one time operated a hazardous waste management unit subject to the interim status or permit requirements of RCRA.

Inclusion on this list does not imply failure on your part to meet any legal obligation, nor should it be construed as an adverse action against you. It only means that Illinois EPA and U.S. EPA have identified your facility – and every other facility in the 2020 Universe – as needing to complete RCRA Corrective Action if they have not done so already. Our national program goal is to address these cleanup obligations before the end of 2020. Accordingly, progress will be tracked for each facility in the 2020 Universe. The list of facilities will be posted on our web site at <http://www.epa.gov/correctiveaction> in the near future.

Illinois EPA will work to address remediation concerns at your facility in a manner consistent with your plans for the property. There are a variety of options available for completing the required remediation efforts at your facility, ranging from participation in Illinois EPA's Site Remediation Program to establishment of an Administrative Order on Consent with USEPA under Section 3008(h) of RCRA.

Illinois EPA would like to schedule a meeting with you in the near future to discuss remedial activities at your facility and achievement of the goal mentioned in the second paragraph of this letter. Please contact James K. Moore, P.E. of my staff at 217/524-3295 if you have any questions regarding this letter and to schedule a meeting to discuss the contents of this letter.

Sincerely,

A handwritten signature in black ink, appearing to read "Stephen F. Nightingale", with a stylized flourish at the end.

Stephen F. Nightingale, P.E.
Manager, Permit Section
Bureau of Land

SFN:JKM:bjh\072572s.dot

cc: Hak Cho, USEPA, Region 5



State of Illinois

ENVIRONMENTAL PROTECTION AGENCY

US ERA

Mary A. Gade, Director

217/524-3300

2200 Churchill Road, Springfield, IL 62794-9276

September 12, 1995

McBride Baker & Coles
Attn: Mr. Clifton A. Lake
Northwestern Atrium Center
500 West Madison Street, 40th Floor
Chicago, Illinois 60661-2511

Re: 1978030005 -- Will County
Lemont/CECO Corporation *Att D.2.1*
ILD990785453
RCRA Log No. C-68-M-3
Date Received: March 31, 1995
RCRA - Closure

Dear Mr. Lake:

This letter is in response to a submittal entitled "Response to IEPA Comments on the Draft Work Plan - Phase I RCRA Facility Investigation" which had a cover letter dated March 30, 1995 which deals with RCRA closure and RCRA corrective action activities at the above-referenced facility. The submittal was received by the Agency on March 31, 1995 and was in response to an Agency letter dated January 30, 1995. As indicated in a May 10, 1994 Agency letter, the closure activities required by the Agency's September 11, 1986 closure plan approval letter for a hazardous waste pile at the subject facility may be coordinated with the RCRA corrective action activities to be carried out for the entire twenty-five acre facility.

Based upon a review of the subject submittal and the previous submittal received by the Agency on October 3, 1994, the Agency hereby approves the procedures described in these two documents for conducting a Phase I investigation of the entire facility subject to the following conditions and modifications:

1. The goal of this investigation is to: (1) determine if all deposits of electric arc furnace dust and associated contaminated materials have been removed from those portions of the site which CECO wishes not to include in the areas which receive formal RCRA closure and post-closure care and (2) obtain data to evaluate the impact which the entire 25- acre facility has had or may have on human health or the environment.
2. As indicated in the Agency's May 10, 1994 letter, once the investigation is completed, it will still be necessary to: (1) evaluate the need for corrective actions and (2) conduct corrective action as necessary.
3. Although the subject submittal addressed Conditions 2j, 4, 5, 6, 7, 8, and 9 of the Agency's September 11, 1986 closure plan approval letter (per Condition 5 of the Agency's January 30, 1995 letter), Condition 14 of the Agency's September 11, 1986 closure plan approval letter should be addressed for the sake of completeness (Condition 14 deals solely with a schedule).

4. The Agency understands that the sampling procedures may result in low recovery due to the amount of large objects in the substrata (slag, slag skulls, etc.).
5. The Agency is concerned that deposits of electric arc furnace dust may still be buried in the slag. In an effort to determine if fine grained materials are (or aren't) electric arc furnace dust, one soil sample at each soil sampling location should be analyzed for total Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Lead, Mercury, Nickel, Selenium, Silver, Thallium, Vanadium, and Zinc. The other two soil samples at each location should be analyzed for total lead, cadmium, and hexavalent chromium only.

The basis for this expanded list is that these metals are the primary hazardous constituents found in steel-making wastes (EAF dust, slag, mill scale). Each groundwater sample collected from monitoring wells should also be analyzed for each of the afore-mentioned fourteen metals, both on a total and a dissolved solids basis.

6. RFI Phase I activities should be completed by May 31, 1996. When Phase I is complete the owner or operator must submit to the Agency certification both by a responsible officer of the owner or operator and by an independent registered professional engineer that the facility completed Phase I in accordance with the specifications in the approved Phase I Workplan. In addition, a certification statement meeting the requirements of 35 IAC 702.126 must be provided by a responsible officer of the laboratory which conducted the chemical analyses that the requirements of this letter were met during the chemical analyses of all samples. This certification must address the applicable sample collection, preservation, handling preparation and analytical requirements set forth in this letter. These certifications should be submitted to this Agency by July 31, 1996. These dates may be revised if Robertson-Ceco Corporation submits information to the Agency indicating that it is attempting to complete the required activities in a timely manner but needs additional time to complete the investigation.

The attached certification forms must be used. Signatures must meet the requirements of 35 Ill. Adm. Code Section 702.126. The independent engineer should be present at all critical, major points (activities) during the RFI Phase I activities. These might include soil sampling, soil removal, backfilling, final cover placement, etc. The frequency of inspections by the independent engineer must be sufficient to determine the adequacy of each critical activity.

The Professional Engineering Practice Act of 1989 (225 ILCS 325/1 et. seq.) requires that any person who practices professional engineering in the State of Illinois or implies that he (she) is a professional engineer must be registered under the Professional Engineering Practice Act of 1989 (225 ILCS 325.4). Therefore, any certification or engineering services which are performed for RCRA Facility Investigation plans in the State of Illinois must be done by an Illinois P.E.

Plans and specifications, designs, drawings, reports, and other documents rendered as professional engineering services, and revisions of the above must be sealed and signed by a professional engineer in accordance with sec. 14 of the Professional Engineering Practice Act of 1989 (225 ILCS 325.14).

As part of the RFI Phase I activities certification, to document the Phase I RFI activities at your facility, please submit a Documentation Report which includes:

- a. Information which the workplan indicates will be in the report;
- b. A chronological summary of Phase I activities and the cost involved;
- c. Photo documentation of Phase I activities;
- d. Information regarding the results of all soil and groundwater investigations as indicated in the attached document entitled Recommended Contents of RCRA Reports Regarding Soil and Groundwater Investigation Results.
- e. Conclusions reached based upon the collected information;
- f. Recommendations regarding any additional investigative efforts necessary to adequately determine the amount and extent, if any, of soil and groundwater contamination at the facility;

The original and three (3) copies of all certifications, logs, or reports which are required to be submitted to the Agency by the facility should be mailed to the following address:

Illinois Environmental Protection Agency
Division of Land Pollution Control -- #33
Permit Section
2200 Churchill Road
Post Office Box 19276
Springfield, Illinois 62794-9276

7. Progress reports must be prepared and submitted to the Agency which describes the activities completed each quarter of the calendar year while the Phase I investigation is being carried out. These progress reports should include, at a minimum;
 - a. An estimate of the percentage of the investigation completed;
 - b. summary of activities completed during the reporting period;
 - c. summaries of all actual or proposed changes to the workplan or its implementation;

- d. summaries of all actual or potential problems encountered during the reporting period;
- e. proposals for correcting any problems;
- f. projected work for the next reporting period; and
- g. other information or data as requested in writing by the Agency's DLPC.

A quarterly progress report for the work completed from the date of this letter to September 30, 1995 must be submitted to the Agency by October 31, 1995. Subsequent quarterly reports must be submitted in a similar manner until the final RFI Phase I report required by Condition 6 above is submitted to the Agency.

- 8. All soil samples shall be analyzed individually (i.e., no compositing). When an SW-846 (Third Edition) analytical method is specified, all the chemicals listed in the Quantitation Limits Table for that method shall be reported unless specifically exempted in writing by the Agency. Apparent visually contaminated material within a sampling interval shall be included in the sample portion of the interval to be analyzed. To demonstrate that a parameter is not present in a sample, analysis results must show a detection limit at least as low as (1) the PQL for that parameter in the Third Edition of SW-846 (Third Edition) Volume 1A, pages TWO-29 and TWO-30, Table 2-15 or (2) 50% of the preliminary target level identified in Condition 5 above.
- 9. All references to SW-846 in this letter refers to Test Methods For Evaluating Solid Wastes, Third Edition (SW-846).
- 10. Under the provisions of 29 CFR 1910 (51 FR 15, 654, December 19, 1986), cleanup operations must meet the applicable requirements of OSHA's Hazardous Waste Operations and Emergency Response standard. These requirements include hazard communication, medical surveillance, health and safety programs, air monitoring, decontamination and training. General site workers engaged in activities that expose or potentially expose them to hazardous substances must receive a minimum of 40 hours of safety and health training off site plus a minimum of three days of actual field experience under the direct supervision of a trained experienced supervisor. Managers and supervisors at the cleanup site must have at least an additional eight hours of specialized training on managing hazardous waste operations.
- 11. Quality assurance/quality control procedures which meet the requirements of SW-846 must be implemented during all required sampling/analysis efforts. Collection, preservation, handling, preparation, and analysis of all required samples must be carried out in accordance with the procedures set forth in SW-846.

Page 5

12. Except as indicated above, the information received March 31, 1995 appears to adequately address the issues raised in the Agency's January 30, 1995 letter.

Should you have any questions regarding this matter, please contact Michael A. Heaton at 217/524-3312.

Sincerely,



Edwin C. Bakowski, P.E.
Manager, Permit Section
Bureau of Land

ECB:MAH:bjh/sp/382X/1,5
JCM

Attachments: 1. Closure Certification Statement
2. Laboratory Certification Statement

cc: USEPA Region V -- George Hamper



State of Illinois

ENVIRONMENTAL PROTECTION AGENCY

Mary A. Gade, Director

2200 Churchill Road, Springfield, IL 62794-9276

217/524-3300

January 30, 1995

McBride Baker & Coles
Attn: Mr. Clifton A. Lake
Northwestern Atrium Center
500 West Madison Street, 40th Floor
Chicago, Illinois 60661-2155

RECEIVED

FEB 03 1995

OFFICE OF RCRA
WASTE MANAGEMENT DIVISION
EPA, REGION V

Re: 1978030005 -- Will County
Lemont/CECO Corporation
ILD990785453
RCRA Log No. C-68
Date Received: October 3, 1994
RCRA - Closure

A.4.1

Dear Mr. Lake:

This letter is in response to a draft workplan for a Phase I RCRA Facility Investigation (RFI) at the above referenced facility, known as Robertson/Ceco Corporation Site ("Ceco") received by this Agency October 3, 1994. It is understood that this document was submitted in accordance with Condition 3 of the Agency's May 10, 1994 closure plan modification approval letter and was developed in general accordance with the guidelines set forth in that Agency letter. As indicated in the May 10, 1994 letter, the closure activities required by the Agency's September 11, 1986 closure plan approval for a hazardous waste pile at the subject facility may be coordinated with the RCRA corrective action activities to be carried out at the facility. The Agency appreciates the chance to comment on the subject draft submittal prior to the submission of the final report.

The Agency's September 11, 1986 closure plan approval letter for a hazardous waste pile at the above-referenced facility provided two options for Ceco: (1) conduct RCRA closure and post-closure care in accordance with 35 IAC Section 725.358(b) for the entire twenty-five acre site, or (2) make a demonstration to the Agency's satisfaction that all deposits of electric arc furnace dust ("EAF dust") and "contaminated material" (admixed slag and EAF dust) have been removed from those portions of the site which Ceco wishes to not include in the area of the site which will receive RCRA closure and post-closure care. Condition 15 of the September 11, 1986 letter identified what CECO had to do to make this latter demonstration. In addition, Condition 16 of that letter identified other requirements which had to be met if Option 2 above was chosen (specifically Conditions 2(j), 4, 5, 6, 7, 8, 9, and 14 of the letter).

Based upon the review of available information, it appears as though CECO has chosen Option 2 above as the procedure to be followed in coordinating the requirements of the Agency's September 11, 1986 closure plan approval letter with the requirements for a RCRA Facility Investigation at this site.

Thus, the Agency reviewed the subject draft workplan to determine its adequacy relative to (1) this chosen procedure and (2) its ability to provide data to assess the impact of the entire 25-acre site on health and the environment, an objective of the document as presented on Page 1-2. Agency comments relative to the document's ability to meet these two objectives are as follows:

1. This site has a relatively unique history which cannot be overlooked in evaluating the subject document:
 - a. Prior to May 10, 1994, it had been almost eight years since there had been any final action taken by the Agency relative to the closure of the hazardous waste pile at the facility (It must be noted however, that Robertson-Ceco has indeed been carrying out some closure activities between 1986 and 1994 including: (1) the recovery of 32,000 cubic yards of contaminated material, (2) the placement of that material in an on-site landfill, and (3) monitoring the groundwater associated with this landfill). One of the main reasons for this lapse in time is that the facility appealed certain conditions and modifications which the Agency imposed upon the approved closure plan for the waste pile at the facility in a letter dated September 11, 1986. Many of the conditions/modifications which were appealed had to do with the fact that Ceco had yet to demonstrate to the Agency that all electric arc furnace dust had been removed from the 25-acre facility, and thus the Agency felt that if such a demonstration could not be made, then the entire twenty-five acres should be closed as a hazardous waste landfill. Robertson-Ceco subsequently lost the appeal.
 - b. Much of the 25-acre facility has been used for the disposition of slag and mill scale from the operation of a near-by steel mill. As stated on Page 2-6 of the subject report, this material is approximately 15 feet thick. Thus, not only is the management of electric arc furnace dust a concern at this facility, but the presence of this slag and mill scale in certain portions of this facility would appear to make those portions solid waste management units subject to the corrective action requirements of Section 3004(u) of the Resource Conservation and Recovery Act and 35 IAC 724.291. It must be noted that the subject facility is indeed subject to these requirements because it has an on-site hazardous waste landfill which it created in 1988. (It must be noted that Condition 3 of the Agency's May 10, 1994 letter incorrectly identifies the creation date of the landfill as 1972).
2. The facility background section of the RFI should contain information regarding the presence and operation of the screening device which was used briefly in 1985 to separate electric arc furnace dust from other materials at the site.

3. Scaled drawings should be provided identifying all areas where material was handled during the closure activities carried out between 1985 and 1988 (including the screening device and temporary stockpiles).
4. Information should be provided regarding changes to the surface contours and elevation from 1985 and 1994. Of special concern is the dispersion by wind and water of particles from the temporary stockpiles created between 1985 and 1988 as part of the closure of the area.
5. Based upon a review of available information, it does not appear as though the information required by Conditions 2j, 4, 5, 6, 7, 8, 9 and 14 of the Agency's September 11, 1986 closure plan approval letter has been submitted to the Agency. It should be noted that this information was required to be submitted to the Agency by Condition 16 of the September 11, 1986 letter, which addressed the requirements which must be met if Robertson-Ceco chose to pursue Option 2 identified above. This information is pertinent site history information which should be provided in the workplan.
6. Condition 15.a of the Agency's September 11, 1986 closure plan approval letter required that certain information be submitted to the Agency regarding closure activities carried out prior to the date of the letter if Robertson Ceco desired to pursue Option 2 identified above. Based upon a review of the Agency files, it does not appear as though this information was specifically submitted to the Agency. Again, this is pertinent site history which should be included in the workplan. There is some information in the files which were apparently provided to the Agency during a March 1, 1989 meeting. This document does not state its purpose and there is no table of contents in it.
7. Based upon a review of the Agency files, it does not appear as though a certification of closure was submitted for the two acre hazardous waste landfill present at the facility. In addition, it does not appear as though there is any other information in the Agency files regarding compliance with 35 IAC 725, Subpart G relative to the closure of this hazardous waste landfill.
8. The last sentence in Section 4.2.3, page 4-7, of the subject submittal "Presumably, both IEPA and USEPA currently intend that TCLP laboratory methods for metals analyses be substituted for EP Toxicity analyses [note: EP Toxicity analyses was required by Condition 15(b)(ii) of the September 11, 1986 Agency approval letter]." is correct. As stated in Table 4-1 (page 4-6) of the subject submittal, the TCLP method (Method 1311 of SW-846) should be utilized, and not EP Toxicity.

9. Although Section 4.2.4.1 of the subject submittal indicates that the subject facility will collect 18 perimeter soil samples plus some interior samples for a total of 24 samples, Figure 4-3 shows the location of 18 perimeter soil samples and five interior soil samples for a total of 23 soil samples.
10. Section 4.8.1 of the subject submittal (pages 4-17, 4-18, and 4-19) indicates the sample designation system. Although the sample depth and QC identifier would not be known prior to the sampling event, the sample locations shown on Figure 4-3, "Proposed Sample Site Locations", should be identified by a unique number (i.e. 1 through 23 (or 24)). Additionally, in the text of the report, the estimated depth to bedrock at each of the proposed locations should be identified.
11. The person conducting the sampling should be familiar with EAF dust, slag, and mill scale, including their properties, characteristics, and variations.
12. Further information should be provided concerning the area occupied by 10,000 yd³ of EAF dust prior to its removal in 1981. Specifically, the nature of this area should be provided (i.e. what constituted the base and walls of this unit, etc). Concerning this area, all information available documenting that all of the EAF dust placed in this area has been removed should be provided in the workplan.
13. The criterion to be utilized to make the determination of whether the material found, including admixed material, will be excavated and properly disposed of should be stated in the workplan. Additionally, if any material is to be disposed of in the on-site landfill, this should be stated. It is understood that plans to add waste to the subject landfill cannot be made until the amount of waste to be added to the landfill is known.
14. Each soil and groundwater sample collected should be analyzed for total and TCLP Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium (total), Lead, Mercury, Nickel, Selenium, Silver, Thallium, Vanadium, and Zinc. The basis for this expanded list is that these metals are the primary hazardous constituents found in steel-making wastes (EAF dust, slag, mill scale).
15. Soil samples should be collected from three vertical intervals at each sampling location. By collecting samples at three verticals at each location, CECO will be able to adequately characterize the slag or mill scale present at the facility, as well as determine whether or not any EAF dust is present. In addition, a sample of any water encountered at each sampling location should be collected and analyzed for total and dissolved metals. The purpose of this sampling/analysis effort is to provide data to assess the impact of the entire site on human health and the environment.

16. The following comments pertain to the proposed groundwater monitoring program:

- a. Condition 3 of the May 10, 1994 IEPA letter require monitoring the groundwater quality at the downgradient edge of the 25 acre waste management area. This monitoring is to determine whether the regulated unit has adversely impacted the groundwater.
 1. The draft RFI workplan proposes to accomplish this requirement through the sampling of bedrock wells that were installed in 1984. Three of these wells, (Well B, Well C, and Well D) are believed by the facility to be located at or beyond the downgradient limit of the waste management area. This draft RFI workplan, however may not accomplish this requirement due to:
 - (a) the lack of knowledge of the groundwater flow direction. The direction of groundwater flow has not been determined for many years due to the lack of well survey elevations for most of the 25 acre site;
 - (b) a lack of proposed monitoring wells on the southwestern portion of the site along the I & M Canal Right of Way. Borings for Well No. 4, Well E, Well No. 3, located in this area of the site, contained electric arc furnace dust and monitoring the water table downgradient of these borings is necessary to determine whether the groundwater has been impacted; and
 - (c) the top of the well screens for Wells B, C, and D are located 19 to 20 feet below the ground surface which may not intersect the water table. Sampling the water table interface at the downgradient limit of the facility is important to determine the presence of contaminants which may be migrating horizontally from the slag material.
 2. To address the concerns listed above, the facility should:
 - (a) Identify the elevation of the water table for the entire facility. Determine the downgradient edge of the waste management area. Evaluate whether the monitoring network adequately monitors the downgradient limit of the 25 acre

waste management unit. If this evaluation determines the downgradient limit is different than reported in the draft RFI, a new monitoring well system that intersects the water table interface must be proposed.

- (b) Evaluate the wells identified as Well A, Well B, Well C, or any existing well determined to be located at or immediately downgradient from the waste management unit to determine whether they are constructed properly and screened in such a manner as to adequately monitor the water table interface. If properly constructed wells do not exist that intersect the water table, additional wells will have to be installed which properly constructed to intersect the water table.
- (c) If it is determined that the groundwater flows toward the northwest to the I & M Canal, an additional well at the waste management limit must be installed in the vicinity of Well A, as designated on Figure 3-2 of the draft RFI Workplan. Borings for Well 4, Well E, and Well No. 3 encountered electric arc furnace dust and monitoring downgradient of these borings is necessary to determine that groundwater within this area of the facility has not been impacted.

This additional well must be constructed to intersect the water table interface in order to determine the presence of contaminants migrating horizontally from the slag material. Well A may be used for this purpose if it meets the above criteria.

- b. Section 4.5 indicates that hydraulic testing is to be performed on each well sampled and on the five wells which comprise the RCRA post-closure monitoring system. A "rising head" hydraulic conductivity test should be a part of this testing since the groundwater beneath the facility is a water table aquifer.
- c. Section 4.8.3 of the workplan indicates well purge water will be inspected for oil sheen prior to disposal on the ground surface. This is an unacceptable method for identifying well purge water that may be hazardous. The purge water must be containerized prior to analytical testing to determine whether it has hazardous characteristics. If the purge water is determined to be hazardous, it must be disposed of as a hazardous waste.
- d. Section 5.1 of the workplan describes the existing monitoring well network around the waste pile. The groundwater flow direction must be determined prior to the acceptance of this well system for waste

pile monitoring. If this evaluation determines the existing downgradient wells are not located in a direct downgradient flow direction from the waste pile, a new monitoring well system must be proposed.

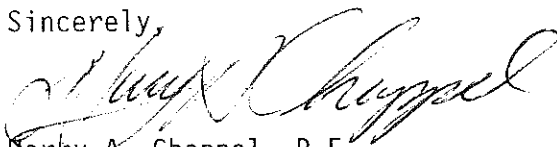
- e. The workplan indicates in Section 5.2.2 that the groundwater is a 35 IAC 620 Class II groundwater. IEPA agrees that the groundwater within the slag fill meets the requirements for a Class II groundwater, however groundwater immediately below this fill material is within a fractured, dolomite bedrock. Due to the lack of any specific information, this fractured dolomite is considered by IEPA to contain groundwater subject to the Class I standards of 35 IAC 620 (the most stringent standard). To reclassify this groundwater as Class II, the facility will have to demonstrate that the saturated dolomite does not meet any of the criteria listed in 35 IAC 620.210(a), including criteria (3) which states that groundwater within a fractured carbonate 15 feet or more in thickness contains Class I groundwater. Attached is guidance regarding classifying a Class II groundwater.

17. Comments in this letter do not address any need for this facility to have a permit as required by 35 IAC 807-817.

A final Phase I RFI Workplan which addresses the comments and conditions above should be submitted to the Agency by March 1, 1995. If necessary CECO may want to schedule a meeting to discuss the issues/concerns set forth in this letter.

Should you have any questions regarding this matter, please contact Michael Heaton or David Mick. of my staff at telephone number 217/524-3300.

Sincerely,



Harry A. Chappel, P.E.
Hazardous Waste Branch Manager
Permit Section, Bureau of Land

HAC:JM:10/0002X/1-7/sp

Jen

Attachments: Groundwater Guidance

cc: USEPA Region V -- George Hamper
USEPA Region V -- Mirtha Capiro

MCBRIDE BAKER & COLES

Clifton A. Lake
715.5765

A Partnership Including Professional Corporations

500 West Madison Street, 40th Floor
Chicago, Illinois 60661-2511

312 715.5700 FAX 993.9350

Lloyd M. McBride
1934-1983

Edward H. Baker, Jr.
1935-1970

RECEIVED
WMD RECORD CENTER

JUN 28 1994

RECEIVED
JUN 27 1994
OFFICE OF RCRA
WASTE MANAGEMENT DIVISION
EPA REGION V

June 24, 1994

Douglas W. Clay, P.E.
Hazardous Waste Branch Manager
Permit Section / Bureau of Land
Illinois Environmental Protection Agency
2200 Churchill Road
Springfield, IL 62706

Re: 1978030005-Will County
Lemont/Ceco Corporation
ILD990785453
RCRA Log No. C-68-M-2

Dear Mr. Clay:

On behalf of my client, Robertson-Ceco Corporation, I am formally advising the Illinois Environmental Protection Agency that Robertson-Ceco intends to pursue corrective action at the above site in accordance with your letter of May 10, 1994, in this matter. We will submit to the Agency on or before October 1, 1994, a Phase I RCRA facility investigation work plan which follows the scope of work attached to your May 10, 1994, letter.

Very truly yours,

Original Signed By
Clifton A. Lake

Clifton A. Lake

CAL/pg

cc: James K. Moore
Mirtha Capiro

C-68-M-6

cc: Maywood
USEPA

Bell JKW
11/17



CARLSON ENVIRONMENTAL, Inc.

December 13, 1996

Mr. James Moore
Illinois Environmental Protection Agency
Division of Land Pollution Control -- #33
2200 Churchill Road
P.O. Box 19276
Springfield, Illinois 62794-9276

RE: 1978030005-Will County
Lemont / Ceco Corporation
ILD990785453
RCRA Log No. C-68-M-2



Dear Mr. Moore:

Enclosed are three (3) copies of the *Supplemental RCRA Facility Investigation Work Plan* for the above referenced site which are being submitted to the Illinois Environmental Protection Agency by Carlson Environmental, Inc. on behalf of the site owner, Robertson-Ceco Corporation. This supplemental work plan addresses the IEPA's concerns referenced in their August 29, 1996 letter about the *RCRA Facility Investigation Phase I Report* submitted in May 1996.

If you have any questions, please call me at (312)346-2140.

Sincerely,

CARLSON ENVIRONMENTAL, INC.

Richard J. Carlson
President

Enclosures (3)

cc: Mr. David Pusateri, Esq. [W/ENC.]
Mr. Clifton Lake [W/ENC.]

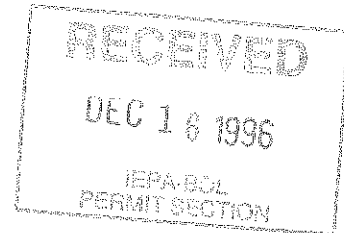




CARLSON ENVIRONMENTAL, Inc.

**SUPPLEMENTAL
RCRA FACILITY INVESTIGATION
WORK PLAN**

Robertson-Ceco Corporation
Lemont, Illinois



Prepared by
CARLSON ENVIRONMENTAL, INC.
312 West Randolph Street
Suite 300
Chicago, Illinois 60606
(312) 346-2140

Project No. 9440 A
December 1996



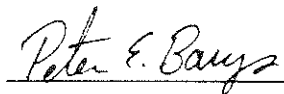
CARLSON ENVIRONMENTAL, Inc.

SUPPLEMENTAL
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WORK PLAN

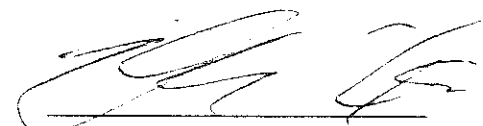
Robertson-Ceco Corporation
Lemont, Illinois

Prepared by
CARLSON ENVIRONMENTAL, INC.
312 West Randolph Street
Suite 300
Chicago, Illinois 60606
(312) 346-2140

Project No. 9440 A
December 1996



Peter E. Barys, CPG-9963
Project Manager



Edward E. Garske, CHMM
Project Director



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ATTACHMENTS

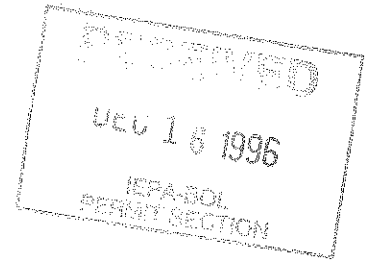
ATTACHMENT A - Figures

FIGURE ONE	Location Map
FIGURE TWO	Site Map

ATTACHMENT B - Tables

TABLE ONE	Monitoring Well Construction Details
TABLE TWO	Soil Analytical Methods & Action Levels
TABLE THREE	Ground Water Analytical Methods & Action Levels

ATTACHMENT C - Personnel Qualifications



1.0 INTRODUCTION

1.1 Purpose of the RFI

This Supplemental Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) Work Plan has been prepared to address the Illinois Environmental Protection Agency's (IEPA's) August 29, 1996 response to the RFI Phase I Report (submitted May, 1996) for the property owned by Robertson-Ceco Corporation (Robertson-Ceco) (Figure One). Detailed background information on the property (the "Site") and the phase I activities are included in the RFI Phase I Report.

The RFI Phase I activities were performed by Carlson Environmental, Inc. (CEI) in December 1995/January 1996 and in accordance with the RFI Phase I Work Plan prepared by Halliburton-NUS Corporation (NUS) and approved by the IEPA on September 12, 1995.

The results of the RFI Phase I investigation demonstrated that no electric arc furnace (EAF) dust (RCRA listed hazardous waste K061) remains on-site outside of the RCRA Closure Unit, which was a concern of the IEPA. Additional concerns of the IEPA referenced in the August 29, 1996 response letter were:

- the elevated levels of certain metals found throughout the 25-acre site;
- the need for an additional monitoring well in the vicinity of SB-18 to complete the down gradient monitoring well network; and
- the need for an additional investigation concerning the petroleum odors encountered during the drilling of SB-21.

To address these concerns, CEI proposes to perform the following as part of the Supplemental RFI Work Plan:

- Collect soil (slag) samples across the entire site and subject the samples to a more applicable / appropriate leaching method (ASTM-D3987) then analyze the samples for the metals which were found at elevated concentrations during the RFI Phase I. These levels will then be compared to the concentrations listed in the latest Tiered Approach To Corrective Action Objectives (IAC 35 Part 742).



for *Migration to Groundwater Portion of the Groundwater Exposure Route Values* (Class I Groundwater).

- Install one down gradient monitoring well in the vicinity of SB-18, completing the monitoring well network.
- Begin quarterly ground water sampling of the monitoring well network.
- Further investigate the petroleum odors encountered while drilling SB-21 by advancing one soil boring in the same location and submitting a soil and ground water samples for analysis of petroleum compounds including benzene, ethylbenzene, toluene, and xylenes and polynuclear aromatic compounds (PNA's).

1.2 Project Background

The Site was owned during the 1970's and early 1980's by The Ceco Corporation (Ceco), a corporate predecessor to Robertson-Ceco. It was used in connection with the operation of an electric arc furnace steel production plant owned by Ceco located north of the Site, for the management of steel-making by-products, including emission control dust (EAF dust) from the electric arc furnaces. In 1980, EAF dust was designated as "listed" hazardous waste K061 by the United States Environmental Protection Agency (USEPA) under RCRA. During the active life of the Site, approximately 12,500 cubic yards of EAF dust were deposited. Most of the EAF dust (10,000 cubic yards) was deposited in a large bermed storage area. The remainder was deposited at undocumented locations in the eastern area of the Site.

EAF dust deposition at the Site ceased in 1980, before the RCRA hazardous waste management regulations became effective. Following excavation and disposal by Ceco of approximately 10,000 cubic yards of EAF dust from the large bermed storage area at a RCRA-permitted off-site hazardous waste disposal facility during 1981-1982, Ceco determined that roughly 2,500 cubic yards of EAF dust remained on-site. In 1983, Ceco contracted with NUS to conduct an investigation to locate and remove the remaining EAF dust deposits. Under an IEPA-approved RCRA Closure Plan, the remaining deposits were located and excavated in 1985 together with approximately 29,500 cubic yards of miscellaneous non-hazardous steel plant by-products, primarily slag, which was co-excavated with the EAF dust to insure that all EAF dust was removed. These materials, altogether comprising a volume of 32,000 cubic yards,



were placed in a RCRA interim-status waste pile closure unit constructed at the Site in accordance with an IEPA-approved Closure Plan.

The RCRA Closure Unit occupies approximately two acres of the Site and is surrounded by a 10-foot high chain link fence which is locked to prevent unauthorized access. RCRA post-closure ground water monitoring conducted since the Closure Unit was constructed, has disclosed no significant impact from the Closure Unit on the quality of the ground water in the uppermost aquifer. The hazardous constituents for which EAF dust is a listed hazardous waste (*i.e.*, lead, cadmium and hexavalent chromium), are either non-detectable or present in extremely low concentrations in the ground water in the upper-most water bearing unit.

In order to demonstrate that the Site does not pose a threat to human health or the environment, Robertson-Ceco, proposed on February 7, 1994, to conduct a RCRA corrective action investigation. The proposal was accepted by the IEPA in a letter dated May 10, 1994. IEPA's letter included a detailed scope of work for a Phase I RCRA RFI Work Plan and required that a Work Plan be submitted by October 1, 1994.

Robertson-Ceco's RFI Work Plan was timely submitted and approved by IEPA on September 12, 1995. IEPA's approval letter required that the RFI Documentation Report be submitted not later than May 31, 1996. That report was received by IEPA on May 31, 1996.

This supplemental work plan addresses issues raised by the IEPA in its August 29, 1996 response to the May 31, 1996 RFI Report.

2.0 GENERAL SITE INFORMATION

2.1 Site Description

The Site is located one-mile west of the city of Lemont in Will County, Illinois. (Figure One) and occupies approximately 25 acres. Access to the Site is by an unnamed paved road from New Avenue. The Site is characterized by the presence of steel production wastes and by-products (primarily furnace slag) which cover the entire property. Several small buildings are located in the western portion of the Site. A former slag processing operation (which in the past had been used to crush and size slag prior to sale as aggregate) is located in the north-central portion of the Site



(Figure Two).

A two-acre RCRA closure unit is located in the central portion of the Site secured with a locked chain-link fence. Five RCRA post-closure ground water monitoring wells are present and are used to perform regular post-closure ground water monitoring. The wells were sited and are sampled in accordance with applicable Illinois RCRA regulatory requirements.

The Site is within a heavily industrialized area. It occupies a portion of a former flagstone (Silurian dolomite) quarry. It is bounded to the east by Dudek, Inc., a scrap iron and metal dealer; to the south, by the Gulf, Mobile & Ohio Railroad; to the west, by an unnamed road which provides access to the Auburn Steel Plant (formerly the Ceko Steel Plant). A Union Oil Company of California oil refinery is located west of the unnamed road. To the north of the Site, is the I & M Canal, the Santa Fe Railroad and the former Ceko steel plant now occupied and operated by Auburn Steel (Attachment A - Figure Two).

2.1.1 Historical Site Operations

Prior to the use of the Site in conjunction with the steel mill activities, it was a limestone quarry in which flagstone was mined for use as building stone. The mining operation left an open pit area roughly 10 feet in depth across most of the Site, with a bedrock surface as its base.

The steel plant to the north was built by Ceko and began operations in 1969. The plant consists of several electric arc scrap-melting furnaces as well as fabrication facilities for billet and other shapes, including concrete reinforcing bar. The source of the steel melted in the electric arc furnaces was and is, steel scrap.

Beginning in 1969, the Site was used in conjunction with the steel mill to process scrap metal for the furnaces, and to manage solid wastes and by-products generated by the steel mill. The principal by-product from electric arc steel-manufacturing is slag, with much lesser amounts of mill scale and EAF dust. In addition to these uses, the Site has been used for slag reclamation operations. The slag reclamation process involved the processing of slag "skulls." Slag skulls are large, slag masses that form in the furnaces where the steel is melted with fluxing material. Often the melting of scrap in the furnace is incomplete, and partially melted scrap steel becomes incorporated in the solidified slag mass. Because of its value as furnace feed stock,



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the steel scrap incorporated in the skulls was reclaimed by breaking and crushing the skulls with a wrecking ball. The separated steel scrap is then returned to the mill to be used as feed stock for the furnaces. The crushed slag was either used as fill at the Site, or further crushed, sized and sold as commercial aggregate. The slag reclamation process is no longer active. Slag produced by Auburn Steel Company, the current owner of the steel mill, is managed elsewhere.

Over the years, the continued deposit of slag at the Site resulted in the gradual expansion of the slag fill from west to east as well as an increase in elevation of the Site. The Site surface is now at an average elevation of 10 feet above the bedrock surface, and is close to the original grade.

When steel scrap is melted in an electric-arc furnace, a very fine dust (EAF dust) is produced. In 1972, the State of Illinois adopted air pollution control regulations which required installation of particulate emission control equipment on the steel plant's electric arc furnaces to capture EAF dust emissions. Baghouse dust collectors were installed to comply with the new regulations. After being collected in the baghouses, EAF dust was mixed with water to form a slurry in order to facilitate handling and control fugitive emissions. The slurry was then transported in trucks from the steel mill to the Site and deposited.

From late 1972 until 1980, slurried EAF dust collected by the baghouses was deposited at the Site. During 1972 - 1973, slurried EAF dust was reportedly brought to the Site in trucks, and deposited into various low areas in the eastern portion of the Site. These deposits were subsequently covered by layers of slag as the Site surface built up.

After about 1973, the slurried EAF dust was deposited exclusively in a discreet bermed area created for that purpose. The bermed area was also located in the eastern portion of the Site.

When the RCRA hazardous waste management regulations became effective in late 1980, and EAF dust became a listed hazardous waste, Ceko applied for and received RCRA interim status to store EAF dust in a "waste pile." No EAF dust was deposited at the Site after November 19, 1980, the effective date of the RCRA regulations. After that date, all EAF dust generated at the steel plant was transported directly to a RCRA-permitted off-site hazardous waste disposal facility. During 1981-1982, approximately 10,000 cubic yards of previously deposited EAF dust was excavated from the principal bermed EAF dust storage area, and disposed of at a



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permitted off-site hazardous waste disposal facility. At that time, based on steel plant operating records, Ceko determined that approximately 2,500 cubic yards of EAF dust remained in the subsurface at the Site in the undocumented deposits made during 1972-73.

On February 3, 1983, Ceko sold the steel mill to Thomas Steel Company. Subsequently, Thomas Steel filed for bankruptcy and the steel mill was sold to its current owner, Auburn Steel Company.

In 1991, Ceko Industries, Inc., the corporate parent of The Ceko Corporation, and H.H. Robertson & Company merged to form Robertson-Ceko Corporation.

Since the RCRA Closure Unit construction was completed in July of 1988, no hazardous waste management activity has occurred at the Site, other than RCRA post-closure ground water monitoring and inspection, and the RFI Phase I activities described in the RFI Phase I Report.

2.1.2 Current Site Operations

All operations at the Site have ceased with the exception of RCRA post-closure activities associated with the Closure Unit.

2.2 Waste Characterization

2.2.1 EAF Dust

EAF dust is designated by USEPA as listed hazardous waste (K061). USEPA's designation was based upon the fact that EAF dust may contain the hazardous constituents lead, cadmium, and hexavalent chromium, 40 C.F.R. Part 261, App. VII. Physically, EAF dust is a very fine particulate, 70 percent of which, by weight, is less than 5 microns in diameter. Its chemical make-up is primarily iron oxide together with oxides of other metals of a degree and type dependent upon the alloying and associated non-ferrous metals present with the scrap steel which was being melted when the EAF dust was created (e.g., lead may be present from a lead-acid automobile battery which was not removed from an automobile carcass before compacting).



2.2.2 Slag

Slag is a non-metallic alkaline by-product of electric arc steel making which contains residual fluxes and other materials (including some metals) fused under high temperature in a vitreous mass. Electric arc furnace slag is not a hazardous waste and in fact is commonly sold for use as commercial aggregate. Most slag present on the Site ranges in size from 100 sieve size to 1 to 2 inches in diameter with occasional pieces up to 6 inches or more in diameter. Larger masses of slag are irregularly shaped with jagged edges. The texture of even the finest slag particles is far more coarse than that of EAF dust. Assuming a uniform thickness of approximately 10 feet across the entire Site, approximately 460,000 cubic yards of slag are present at the Site.

2.2.3 Mill Scale

Mill scale is another non-hazardous by-product in the steel making process which is present at the Site. Mill scale is iron oxide (rust) which forms on and is removed from the surface of steel bars during the rolling process. Mill scale was periodically deposited at the Site. No records were maintained as to the quantity or locations of disposed mill scale.

2.3 Regional and Site Physiography

The present-day physiographic features in the Site area were formed approximately 20,000 years ago by glacial and fluvial actions which physically shaped the surrounding land. Glacial deposits almost completely mask the bedrock surface in the area (Willman, 1971). The Site, which is located in the Des Plaines River Valley, lies within the physiographic province known as the Central Lowlands, a broad, relatively low area that roughly outlines the glaciated area. The local relief in the Central Lowlands seldom exceeds a few hundred feet.

The Site is situated on a former flagstone quarry, which is located in the northeast portion of Will County, near the Will County/Cook County border in Lemont, Illinois.

Surface water from the Site discharges to the I&M Canal which is located immediately to the north. Precipitation at the Site infiltrates quickly through the highly permeable slag and discharges to the ground water system. A small, intermittent drainage ditch runs the length of the southern boundary of the Site. An



intermittent drainage channel located on the west-central portion of the Site runs from south to north and discharges to both the I & M Canal and the drainage ditch to the south of the Site. Water that collects in the former slag processing area discharges to the I & M Canal through a drainage ditch.

There are no significant surface water bodies, streams or wetland areas located at the Site. Significant surface water features in the vicinity of the Site include the Des Plaines River, the Chicago Sanitary and Ship Canal, and the I&M Canal.

The climate is continental with cold winters and warm summers. Average daily temperature is 51.4°Fahrenheit (F). The highest average daily temperature is 81°F in August, and the lowest daily temperature is 20.3°F in December. Mean annual precipitation is 38 inches. The prevailing wind direction is easterly at a velocity of less than 13 miles per hour.

2.4 Site Geology

The geology in the vicinity of the Site is characterized by relatively flat-lying, dolomitic bedrock overlain by river alluvium within the river valley and glacial deposits which form the surficial materials outside the river.

Dolomitic (calcium magnesium carbonate) bedrock lying beneath the Site belongs to the Niagaran Series of the Silurian System, Joliet Formation and is 40 to 60 feet thick (Willman, 1971). The Site is within a former quarry where dolomite was removed for use as building stone. Approximately 10 feet of limestone was removed from the estimated original surface down to approximately an elevation of 580 feet above mean sea level (msl). The slag fill at the Site is located within the quarry pit. A bedrock sill, consisting of bedrock left in place, is present between the Site and the I & M Canal. The dolomite is characterized by a yellow-brown (buff) color, moderate fracture densities with vertical fractures ranging from one-half foot to several feet apart, and horizontal bedding fractures that produce a general flaggy nature to the near surface bedrock. Bedrock is also exposed along the I & M Canal, which forms the northern boundary of the Site. The surface of the Site is covered with a layer of fill consisting primarily of steel furnace slag, which is approximately 10 feet in thickness across the Site. For purposes of this work plan, the term soil refers to the slag and associated material described in detail above.



2.5 Site Hydrogeology

North of the Site, the Des Plaines River, Chicago Sanitary and Ship Canal, and I & M Canal all flow within the dolomitic bedrock.

The Des Plaines River drains to the Illinois River approximately 20 miles downstream from the Lemont area, and ultimately to the Mississippi River.

The Site hydrology has been thoroughly characterized. Ground water occurs at between 2 and 13 feet bgs, and for most of the season, the water table is below the bedrock surface. The ground water flow direction is northwest, towards the I & M Canal, where discharge as base flow to the Canal most likely occurs.

Data collected from the in-situ permeability tests establishes hydraulic conductivity ranges from 1.06×10^{-3} cm/sec to 6.6×10^{-6} cm/sec with a mean of 3.49×10^{-4} cm/sec.

Infiltration of precipitation at the Site is moderate to high given the relatively high permeability of the Site materials. The uppermost aquifer at the Site is a water table aquifer, which fluctuates seasonally from within the slag fill (*i.e.*, above the bedrock surface) to below the bedrock surface (NUS, 1994). Field data demonstrates that these units are hydraulically connected. Ground water flow in the bedrock is primarily through a fracture system. Most of the surface water that infiltrates the Site enters the ground water and discharges to the I & M Canal as base flow discharge. Ground water from beneath the Site that does not discharge to the I & M Canal discharges to the Chicago Sanitary and Ship Canal, which lies immediately north of the steel mill.

No drinking water sources exist downstream of the Site that take water from the I&M Canal. Similarly, no drinking water sources using ground water are located hydraulically down-gradient from the Site between the Site and the Chicago Sanitary and Ship Canal.

3.0 SITE-SPECIFIC SAMPLING PLAN

3.1 Soil Sampling

To address IEPA's concerns about certain metals (*i.e.*, arsenic, chromium and lead) concentrations detected in slag during the RFI Phase I investigation, CEI will advance



24 soil borings near the locations of the soil borings which were completed during the Phase I RFI. Each of these soil borings will be advanced to a depth of approximately 3 feet below ground surface (bgs). CEI will then collect a representative sample of the generated cuttings for laboratory analysis. In addition to this investigation for the above-listed metals, another soil boring will be advanced in the same location as SB-21. At this location, CEI previously noted a slight petroleum odor. This soil boring will be advanced to the ground water table where soil and ground water samples will be collected for analysis (see Section 3.4).

.3

3.1.1 Soil Sampling Locations

Soil borings will be located approximately one-foot north of the previously completed soil borings from the Phase I RFI. There are 24 locations across the slag covered area of the site, each spaced approximately 300 feet apart according to the grid pattern specified in the Phase I RFI Work Plan. These proposed soil borings will be labeled with a "B" at the end of the corresponding number (i.e. SB-1B, SB-2B, etc.) to represent a unique sampling number and location for the Supplemental RFI Work Plan (Attachment A - Figure Two).

The soil boring that will be advanced to further investigate the "petroleum odor" noted on the boring log of SB-21 will be located within a few feet of the original soil boring SB-21 and will be labeled SB-121 (Attachment A - Figure Two). If the petroleum odors are confirmed in the field, additional soil borings will be advanced to determine the magnitude and extent of the petroleum compounds.

3.1.2 Soil Sampling Methods

All drilling and sampling activities will be performed in accordance with the American Society for Testing Materials (ASTM) and USEPA methods. Soil borings will be advanced utilizing a truck mounted drill rig utilizing hollow-stemmed augers. At each location, the soil boring will be advanced to a depth of three feet below ground surface, except for SB-121 which will be advanced to the ground water table. At this point the auger will be allowed to spin to generate a uniform mixture of cuttings. After the soil cutting have been homogenized, a representative sample of the slag will be collected with a clean stainless steel trowl and placed into a new laboratory supplied glass jar. CEI personnel collecting the samples will be wearing a new pair of latex gloves for each sample. The sample jar will be immediately labeled and placed into a cooler on ice.



Soil boring SB-121 will be continuously sampled with a standard 2-foot long splitspoon sampling device which will be advanced through hollow-stem augers. The soil in each spoon will be described in detail and screened with a flame ionization detector (FID). The sample displaying the highest FID readings will be sent to an analytical laboratory for chemical analysis of petroleum constituents. The borehole will then be converted into a temporary 2-inch diameter PVC monitoring well with a 10 foot screen. The monitoring well will be constructed in accordance with Section 3.2 below. The temporary monitoring well will be developed to remove all clay, silt and sand particles.

After development, a stainless steel bailer will be lowered into the monitoring well and allowed to fill with water. After the bailer is brought back to the surface, the water will be transferred into new laboratory supplied jars equipped with teflon lids. The samples will be immediately labeled and placed into coolers containing ice and kept at 4°C until arrival at the laboratory.

3.1.3 Equipment Decontamination Procedures

After each soil boring, all down-hole drilling equipment will be thoroughly cleaned using a high-pressure steam-cleaner. Between each sample collection, the split-spoon sampler will be scrubbed in a soap solution (Alconox® and water) and triple-rinsed with deionized water to prevent cross-contamination.

3.1.4 Quality Assurance / Quality Control Samples

For quality assurance / quality control (QA/QC) purposes, CEI will collect two duplicate samples and two equipment blanks during the collection of the 24 slag samples in accordance with USEPA's SW-846, "Test Methods for Evaluating Solid Waste", third edition (SW-846). These QA/QC samples will be assigned a unique identification number. These samples will be prepared and analyzed for the same parameters as the 24 slag samples collected.

During the quarterly ground water sampling described below, CEI will collect one duplicate sample and one equipment blank sample for each sampling event.

3.2 Installation of Ground Water Well

As requested by the IEPA, one additional ground water monitoring well will be installed in the proximity of SB-18. This monitoring well will be labeled MW-A and



will be constructed of 2 inch diameter polyvinyl chloride (PVC) casing. This well will be screened from approximately 19 to 24 feet bgs to penetrate the top of the bedrock. This monitoring well will be completed as a "stickup" well to aid in the location of the well. The monitoring well diagram, along with the respective soil boring log, will be included in the RFI Supplemental Report. Table One - Attachment B, summarizes the construction details of each of the existing monitoring wells as well as to the proposed well MW-A. This well will be surveyed and tied into the existing ground water monitoring well network.

Monitoring well MW-A will be constructed as follows: Quartz sand will be placed around the screen to an elevation of 1-2 ft above the screen. Approximately 2 feet of bentonite pellets will be placed above the quartz sand to provide an impermeable seal in the annular space. The remaining annulus will be filled with bentonite chips to approximately 1 foot bgs. In order to secure the wells, a locking protective outer steel casing will be cemented around PVC riser and extending approximately 2-feet above the surrounding ground surface. All well screening and casing materials will be steam-cleaned prior to installation.

3.3 Ground Water Sampling

3.3.1 Monitoring Wells to be Sampled

As part of this Supplemental RFI Work Plan, CEI will monitor down-gradient water quality from the Site (in contrast to the RCRA Closure Unit) by sampling the following monitoring wells: MW-D1 and MW-K (up gradient monitoring wells) and MW-A, MW-B, MW-C and MW-D (down gradient monitoring wells) on a quarterly basis. Table One (Attachment B) describes all of the Site monitoring wells.

3.3.2 Ground Water Level Measurements

The inner casings of all ground water monitoring wells were surveyed by Reiter & Associates to determine elevations. Ground water level measurements will be obtained using an electronic sounding device which is accurate to the nearest hundredth of a foot. At each well, a Solinst® model 101 water level meter will be lowered into the well until the meter sounds. At that point, the depth to water will be measured from the north side of the inner casing and recorded. This process will be performed twice for each well to ensure accurate measurements. Water level measurements will be collected each quarter during the sampling event. All



monitoring wells will be measured except for wells E and I which were both damaged and are unusable for data collection. With this information, ground water flow direction and hydraulic gradient can be calculated for the Site which will be incorporated into the quarterly monitoring report.

3.3.3 Ground Water Sampling Methods

Ground water samples will be collected from each of the six wells (MW-D1, MW-K, MW-A, MW-B, MW-C, and MW-D) using a USEPA's accepted low-flow ground water sampling method. The low-flow sampling method was designed to obtain a representative sample from the well without filtering. The objective is to collect a more representative ground water sample by eliminating turbidity which is common to bailing methods.

The monitoring well sampling procedures will be as follows:

- 1.) The static water level will be measured and recorded to 0.01 feet with an electric water level indicator (Solinst model 101) and recorded on a data sheet. The probe will be carefully lowered into the well to minimize disturbance of the water column.
- 2.) The required length of teflon tubing will be calculated, measured and marked for attachment to a peristaltic pump, so that the intake will be located at the mid-point of the saturated screen interval. A minimal length of tubing was used to minimize the temperature change from the collection point to the discharge point.
- 3.) The tubing will be inserted slowly to the measured depth and secured to the well casing to minimize disturbance to the water column. The tubing will be dedicated to each well, secured to the cap, and left inside the protective casing to minimize disturbance to the water column during subsequent sampling events.
- 4.) The monitoring instruments will be calibrated and assembled. The tubing will be connected to the pump and a flow-through chamber in which the instrument probes are located.



- 5.) The peristaltic pump will be started at the minimum continuous flow rate attainable by the pump, between 0.02 to 0.05 liters per minute. Start times and flow times will be recorded. The flow rate will be adjusted to a rate that minimizes drawdown in the well. A full round of measurements will be recorded every five minutes including time, temperature, specific conductance, pH, turbidity, dissolved oxygen and water level.
- 6.) All data and changes will be recorded on the data sheets and flow rates will be adjusted to obtain minimal drawdown. If drawdown increases significantly, the wells will be pumped intermittently until parameters stabilize.
- 7.) Once field parameters stabilize, ground water samples will be collected. The stabilization will be defined by readings within a range of ten percent for three consecutive five minute intervals, or until three well volumes are purged and turbidity levels below 20 NTUs are achieved.
- 8.) Once stabilization is been achieved, the flow-through chamber will be disconnected and the sample will be collected directly from the tubing.
- 9.) The samples will be maintained at a temperature of approximately 4°C in an insulated container. Upon completion of the site sampling, the samples will be shipped to an Analytical laboratory for analysis. The samples will be maintained under standard chain-of-custody procedures/documents.

3.4 Laboratory Analytical Methods

All samples will be analyzed by a qualified analytical laboratory in strict accordance with ASTM methods and the USEPA's SW-846.

3.4.1 Soil Samples

The 24 soil samples (and the 2 duplicate samples) collected from the slag material will be prepared according to ASTM Method D3987-85 (*Standard Test Method for Shake*



Extraction of Solid Waste with Water) as specified in 35 IAC 817.103. This analytical protocol should closely simulate the effects of weathering on the slag material and indicate its ability to release heavy metal constituents into solution. The liquid extract from this preparation technique will then be analyzed for total lead, chromium, and arsenic using USEPA method series 6000 and 7000 analytical protocols as specified in SW-846 (Table Two - Attachment B). The results from these analyses will be compared to the IEPA's latest Tiered Approach To Corrective Action Objectives (TACAO) - *Migration to Ground Water Portion of the Ground Water Exposure Route Values*.

3.4.2 Ground Water Samples

All ground water samples will be submitted for analysis of total metals including antimony, arsenic, barium, beryllium, cadmium, lead, mercury, nickel, selenium, silver, thallium, vanadium and zinc, using USEPA's preparation method 3015, and 6000 and 7000 series analytical protocols as specified in SW-846. The laboratory will use the Class I Groundwater Quality Standards listed in 35 IAC 620.401 as the detection limit for each metal. Table Three - Attachment B lists the detection limit for each of the metals to be analyzed. The results of the quarterly ground water sampling will be summarized in tabular form and presented to the IEPA in a report which will follow approximately 30 days after each sampling event.

3.4.3 SB-121 Soil and Ground Water Sampling

The soil and ground water samples collected from soil boring SB-121 will be analyzed for petroleum constituents (benzene, ethylbenzene, toluene and xylenes) using USEPA Method 8260 and Method 8310 (Polyaromatic hydrocarbons-PNA's) to determine if petroleum constituents are present. If the laboratory results indicate that no petroleum constituents are present, then additional samples (both ground water and soil) will be analyzed for the complete list of organic constituents listed in 35 IAC 620.410(b) as specified in IEPA's August 29, 1996 response letter. The analytical results from the laboratory will be compared to IEPA's TACAO to determine if further investigation is needed.

4.0 PROJECT MANAGEMENT PLAN

CEI's project management team involved in developing the Supplemental RFI Work Plan and conducting investigations at the facility includes the following individuals:



CARLSON ENVIRONMENTAL, Inc.

Robertson-Ceco
Supplemental RFI Work Plan

- Project Director Edward E. Garske
- Project Manager Peter E. Barys
- Project Engineer Kenneth W. James, P.E.

Edward Garske, Project Director, will have final responsibility and authority for all work performed, and will assure the resources required to successfully complete the project are committed.

The Project Manager, Peter E. Barys, is the manager of project activities and is responsible for:

- Managing project operations and activities.
- Conducting technical review of each task being performed.
- Maintaining clear and effective communication with Robertson-Ceco.
- Ensuring appropriate technical resources are utilized for each task.
- Ensuring field activities are conducted in accordance with program Health and Safety and QA/QC requirements.
- Ensuring proper technical consultation is provided.
- Maintaining overall project technical continuity.
- Controlling costs and schedule aspects of all project activities.

The project Engineer, Kenneth W. James, will be responsible for maintaining the quality of all engineering activities associated with the project in addition to establishing detailed task specifications including schedules and estimates of labor and material costs.

Project Staff will include the following CEI personnel:

- Margaret M. Kilian, Chemical Engineer



CARLSON ENVIRONMENTAL, Inc.

Robertson-Ceco
Supplemental RFI Work Plan

- Samuel T. Bodine, Staff Scientist
- Bruce A. Shabino, Staff Geologist
- Phillip A. Hoeksema, Staff Geologist

The qualifications of the above listed CEI personnel are included in Attachment C.

5.0 HEALTH AND SAFETY PROGRAM OVERVIEW

The following is an overview of Carlson Environmental, Inc.'s Health and Safety Program which will be tailored for work on the Robertson-Ceco Supplemental RFI project. This overview is intended to provide general information regarding procedural and equipment requirements for worker protection and compliance with all relevant local, state, and federal regulations which are applicable during all phases of site activities undertaken by CEI and its subcontractors.

CEI will oversee all tasks performed at the Site to make sure they are in strict adherence to CEI's Health and Safety Plan. The basic purpose of the program is to provide a working environment which meets or exceeds all local, state, and federal regulations and codes, while ensuring the highest level of safety and health for the workers and surroundings.

The Health and Safety Program includes a basic policy that requires and guarantees the following:

- Provision of a safe working environment;
- Compliance with accepted safe work practices and all health and safety regulations, codes, and rules;
- Provision of adequate training for all employees (upper management to field technicians) to provide the proper guidance for performing their jobs safely, while teaching them their duties and responsibilities to protect themselves, fellow workers and the general public;
- Acceptance and understanding by all employees that safety is a fundamental requirement and, with environmental compliance, the top priority in performing all assigned tasks; and
- Credence to the corporate premise: "Accidents can be prevented."



The CEI Health and Safety Program is designed for all personnel conducting all tasks at the site. Both line management and corporate management are responsible for ensuring that adequate support and resources are available to provide and maintain safe and healthful working conditions at all times. Site project management (Mr. Samuel Bodine) is responsible for ensuring that safety is integrated in each task and that proper conditions to support a safe and healthful working environment are provided. Field Supervisors are charged with maintaining and enforcing the safe and healthful working environment for field crews implementing each assigned task. Finally, each employee, from senior management to field crew member, is responsible for observing all health and safety policies and procedures in effect and reporting unsafe conditions or acts to their supervisors and management.

A site-specific Health and Safety Plan (HSP) is prepared for each project. The HSP emphasizes conditions and safety and health concerns particular to the site. This document will serve in part as a basis of information for ensuring the Health and Safety of site personnel. The HSP will be presented in greater detail after contract award. The table of contents from a typical CEI HSP is included below:

TYPICAL SITE-SPECIFIC HEALTH & SAFETY PLAN

Table of Contents

- 1.0 Purpose and Scope of Work
- 2.0 Key Personnel and Responsibilities
- 3.0 Work Hazards Analysis
- 4.0 Medical Surveillance
- 5.0 Employee Training and Information
- 6.0 General Safe Work Practices
- 7.0 Heat and Cold Stress
- 8.0 Personal Protective Equipment (PPE)
- 9.0 Work Zones
- 10.0 Emergency Response Plan
- 11.0 Air Monitoring Plan
- 12.0 Noise Monitoring
- 13.0 Accident Prevention and Site Control
- 14.0 Biological Hazards
- 15.0 Logs and Record-Keeping



ATTACHMENTS

- Appendix A Professional Profiles
- Appendix B Activity Hazardous analysis
- Appendix C Training Records
- Appendix D Hazard Communication Program & Material Safety Data Sheets
- Appendix E Respiratory Protection and Personal Protective Equipment Program
- Appendix F Site Map
- Appendix G Incident Reporting and Investigation Program
- Appendix H Notification List and **Hospital Route**
- Appendix I Record Keeping
- Appendix J Emergency Response Plan

The HSP is designed to comply with established CEI policies and procedures and applicable state and federal OSHA regulations. All CEI site personnel, site visitors, and CEI subcontractor personnel will be subject to the provisions of this directive.

KEY PERSONNEL AND RESPONSIBILITIES

The Project Manager (PM) is responsible for field implementation of the HSP. This includes field supervision, maintaining contamination control zones, enforcing safe work practices and decontamination procedures, ensuring proper use of personal protective equipment and communicating modified safety requirements to Site personnel. The PM will have overall responsibility of Site activities, including health and safety enforcement and compliance.

The Site Health and Safety Officer (SHSO), is responsible for field and technical coordination of the Health and Safety Program. Specific Site duties will include:

- Establishing Site work zones and decon stations;
- Conducting daily safety inspections;
- Establishing emergency exit points, assembly areas, and first-aid stations;
- Implementing Site emergency warning communications system(s);
- Maintaining the local medical surveillance and emergency medical treatment programs;
- Conducting site-specific employee training and information sessions;
- Conducting air monitoring;
- Assigning appropriate protection levels for Site personnel;
- Auditing safety record keeping compliance; and
- Serving as technical liaison to regulatory agency personnel on matters related



to occupational safety and health.

The CEI Health and Safety Manager (HSM) has an overall project responsibility for the development and implementation of the HSP and conformance with the project requirements. The HSM will be responsible for conducting field audits to ensure compliance with the procedures outlined in the HSP and with the corporate Health and Safety Program for hazardous waste sites. He will review all proposed changes to the HASP for approval. Authorization for personnel to perform work on-site, preliminary and follow-up medical surveillance, and on-site training are among the HSM's responsibilities.

The HSM, PM and the SHSO have the authority to make on-the-spot corrections relative to safety infractions. If it is determined that the infraction cannot be remedied immediately, and is such a nature that continuation of the project could result in significant violations, the HSM, PM, and/or SHSO have the authority to order cessation of the activity until such time as the problem can be remedied.

MEDICAL SURVEILLANCE

Medical surveillance will be conducted in accordance with CEI's corporate Safety Medical Program. All site personnel, including all subcontractors, will have successfully completed a pre-placement or periodic/updated medical examination prior to their assignment to the project. At a minimum, the medical evaluation will include:

- A review of medical, personal, family and occupational histories;
- Physical examination and clinical evaluation of the employee's ability to wear respiratory protective equipment and protective apparel, to tolerate strenuous work and the stress conditions, and to work with hazardous materials;
- PA chest x-ray;
- Pulmonary function (FEV 1.0) and FVC);
- CBC with differential, hematocrit;
- Blood Chemistry (SMAC 23 test survey);
- Urinalysis (including mercury);
- Vision screening;
- PCB's in blood; and
- Any other tests deemed appropriate by the examining physician.



EMPLOYEE TRAINING

All project employees, including all subcontractors, must be familiar with an approved orientation and basic safety program before they can be assigned to this remedial project. This program will meet the requirements of 29 CFR 1910.120 for 40-hour training for hazardous waste site workers. The course work for the 40-hour training will be a combination of formal classroom instruction, demonstration, and practical exercises. Copies of the training certificates for all personnel working on the Site, including the subcontractors, will be provided and maintained by the SHSO. Additionally, the following training will be undertaken by site personnel:

- Each employee who completes the 40-hour Basic Safety Course is required to have at least three days of direct supervision by the HSO and an experienced supervisor, per the requirements of 29 CFR 1910.120;
- Each employee will attend an annual 8-hour refresher course which meets the requirements of 29 CFR 1910.120; and
- Supervisors and managers must attend additional training which includes hazardous waste management policies and procedures and regulatory compliance (8-hours) per the requirements set forth in 29 CFR 1910.120.

DECONTAMINATION PROCEDURES

As part of the system to minimize or prevent the physical transfer of contaminants by personnel/ or equipment from on-site, safety procedures will be instituted for anything leaving the "Exclusion Zone" and the "Contamination Reduction Zone". These procedures include the documentation of personnel, reusable protective equipment, monitoring equipment, clean-up equipment, and heavy machinery. Everything leaving the Exclusion Zone will be considered contaminated and appropriate methods will be established for decontamination.

In general, decontamination at the site will include rinsing of equipment, personnel, etc, with a polyvalent, non-phosphatic, dispersing agent (detergent) and water solution. When contaminants are known, a specific detergent and/or solvent will be used. The rinsate, contaminated clothing, brushes, sponges, containers, etc., used in the decontamination process will, unless shown otherwise, be considered contaminated and properly disposed. Disposal will involve placing all contaminated articles in DOT-specified drums or other approved containers, affixing proper labels, sampling and disposing as a hazardous waste, if necessary.



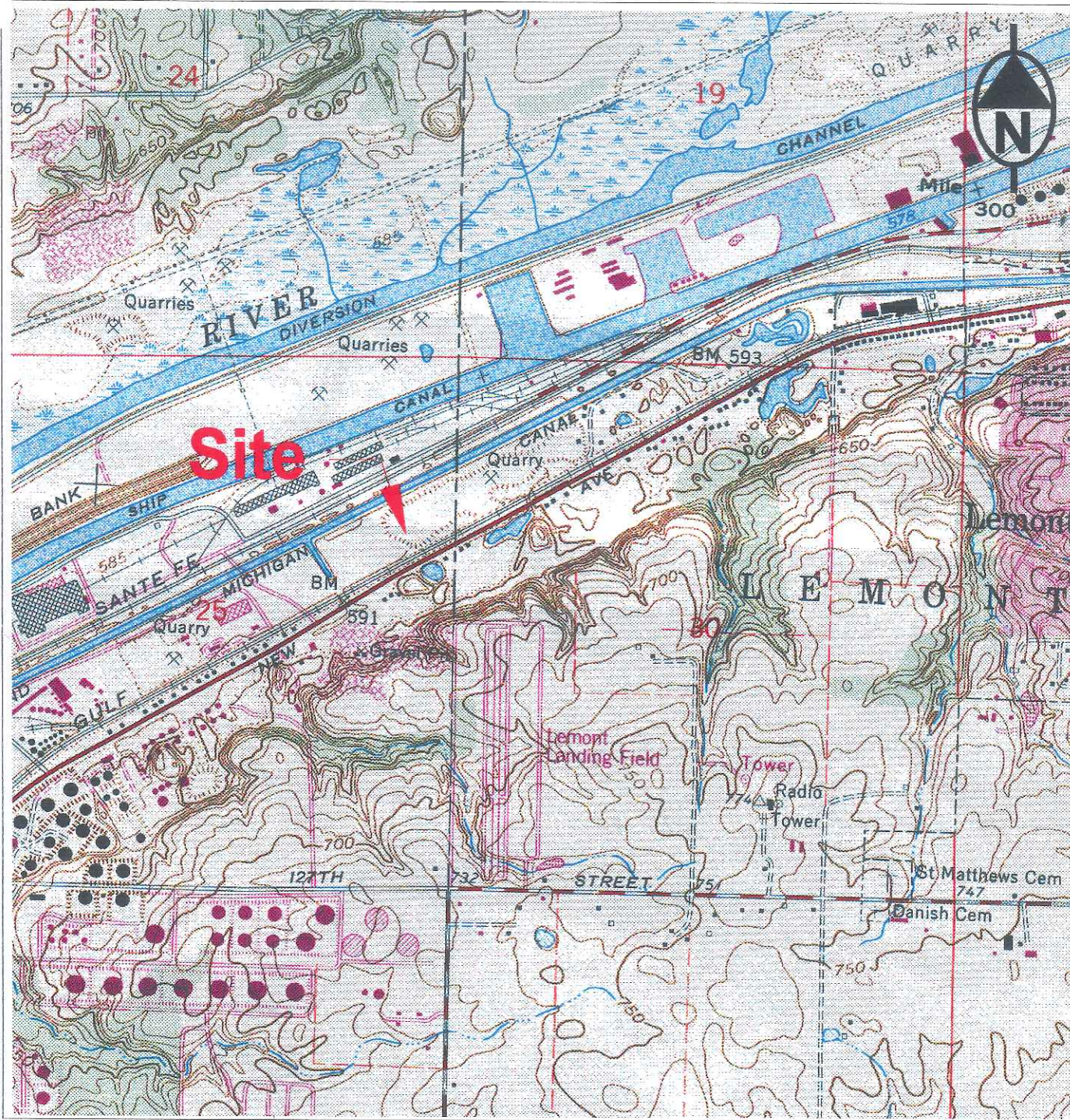
6.0 REFERENCES

- Bouwer, H. and Rice, R.C., 1976. Slug Test for Determining Conductivity of Unconfined Aquifers with Completely or Partially Penetrating Wells, Water Resources Research, Vol. 12, No. 3, pp. 425-428.
- FEMA, 1981. Flood Insurance Rate Map, Cook County, Illinois. Panel 165 of 245, Community-panel # 170054 0165 B. Effective date April 15, 1981.
- FEMA, 1981. Flood Insurance Rate Map, Cook County, Illinois. Panel 190 of 245, Community-panel # 170054 0190 B. Effective date April 15, 1981.
- FEMA, 1982. Flood Insurance Rate Map, County of Will, Illinois. Panel 80 of 350, Community-panel # 170695 0080 B. Effective date April 15, 1982.
- Halliburton NUS Corporation, 1993. Summary of Well Installation Activity. Dudek Site, Waste Storage Area, Lemont, Illinois, Will County Illinois. EPA ID NO. IL990785453. May 1993.
- NUS Corporation, 1985. Final Closure Plan for Waste Storage Area. EPA ID NO. IL990785453, NUS Project Number U495. January 1985.
- NUS Corporation, 1986. Amendment to Closure Plan for Waste Storage Area. EPA ID NO. IL990785453, NUS Project Number U495. January 1985, Amended March 1986.
- NUS Corporation, 1994. Draft Work Plan for Phase I RCRA Facility Investigation Volumes 1 and 2. EPA ID NO. ILD990785453. September 1996.
- U.S. Environmental Protection Agency, 1986. RCRA Facility Assessment Guidance. Office of Solid Waste. Washington, DC.
- USGS. 1980. Romeoville, Illinois 7.5 Minute Quadrangle Map. DMA 3367, NE-Series U863. 41088-F1-TF-024. Photo revised 1973, 1978, and 1980.
- Willman, H.B., 1971, Summary of the Geology of the Chicago Area, Illinois Geological Survey Circular 460, 77 p.

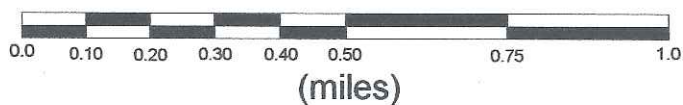


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ATTACHMENT A
FIGURES



SCALE



USGS 7.5 Minute Series Topographical Quadrangle "Tomeville, Illinois" (1962-Photorevised 1973 & 1980)



CARLSON ENVIRONMENTAL, INC.
 312 West Randolph Street
 Chicago, Illinois 60606
 (312) 346-2140

PROJECT NO.		
DRAWN BY		DATE
CHECKED BY		DATE
REVISION 1		DATE
REVISION 2		DATE

**FIGURE ONE
 LOCATION MAP**
 Robertson-Ceco
 Lemont, Illinois

Drawing No.

1 of 2



CARLSON ENVIRONMENTAL, Inc.

ATTACHMENT B
TABLES

TABLE ONE									
MONITORING WELL CONSTRUCTION DETAILS									
Robertson-Ceco Corporation									
Lemont, Illinois									
Well Number	Installed By	Date Installed	Well Material	Total Depth (feet bgs)	Screen Interval (feet bgs)	Formation Screened	Depth to Bedrock (feet bgs)	Relative Ground Water Location	Hydraulic Conductivity (cm/sec)
OW-1	Eldredge	4/4/80	4" PVC	55.3	16.8 - 55.3	Bedrock	13.8	DG	4.95 x 10 ⁻⁵
OW-2	Eldredge	4/4/80	4" PVC	54.7	16.7 - 54.7	Bedrock	13.7	DG	2.55 x 10 ⁻³
OW-3	Eldredge	4/4/80	4" PVC	55.5	8.5 - 55.5	Bedrock	5.5	DG	1.06 x 10 ⁻³
OW-4	Eldredge	4/4/80	4" PVC	54.3	14.3 - 54.3	Bedrock	11.3	UG	1.07 x 10 ⁻³
*MW-A	CEI	1997	2" PVC	24	19-24	Bedrock		DG	Proposed
MW-B	NUS	8/11/84	2" PVC	24.5	19.5 - 24.5	Bedrock	5.0	DG	5.9 x 10 ⁻⁶
MW-C	NUS	8/11/84	2" PVC	23.5	18.5 - 23.5	Bedrock	9.0	DG	1.68 x 10 ⁻³
MW-D	NUS	8/10/84	2" PVC	24.0	19.0 - 24.0	Bedrock	4.0	DG	6.6 x 10 ⁻⁶
MW-E	NUS	8/8/84	2" PVC	24.5	19.5-24.5	Bedrock	14.0	MG	NA
MW-I	NUS	8/9/84	2" PVC	20.0	15.0-20.0	Bedrock	0.0	MG	NA
MW-J	NUS	8/10/84	2" PVC	25.0	20.0 - 25.0	Bedrock	13.0	MG	5.7 x 10 ⁻⁶
MW-K	NUS	8/9/84	2" PVC	24.5	19.5 - 24.5	Bedrock	9.5	MG	8.15 x 10 ⁻⁵
MW-D1	HNUS	4/7/93	2" 316 SS	30.4	24.9 - 29.9	Bedrock	20.3	UG-ISU	1.05 x 10 ⁻⁵
MW-D2	HNUS	4/12/93	2" 316 SS	29.0	21.0 - 26.0	Bedrock	17.0	DG-ISU	1.15 x 10 ⁻⁵
MW-D3	HNUS	4/14/93	2" 316 SS	26.5	20.5 - 25.5	Bedrock	16.0	DG-ISU	3.4 x 10 ⁻⁶
MW-D4	HNUS	4/8/93	2" 316 SS	26.0	19.5 - 24.5	Bedrock	15.5	DG-ISU	4.4 x 10 ⁻⁶
MW-D5	HNUS	4/6/93	2" 316 SS	29.0	19.5 - 24.5	Bedrock	15.5	UP-ISU	6.1 x 10 ⁻⁶

*MW-A = Proposed Monitoring Well

PVC = Polyvinyl Chloride (rigid)

SS = Stainless Steel

DG = Down Gradient of the Fill

UG = Up Gradient of the Fill

MG = Mid Gradient

DG-ISU = Down Gradient inside the Interim Surface Unit

UP-ISU = Up Gradient inside the Interim Surface Unit

TABLE TWO SOIL ANALYTICAL METHODS & ACTION LEVELS Robertson-Ceco Corporation Lemont, Illinois			
Metals	Action Level (mg/kg)	Source	
Arsenic	0.05	Migration to Groundwater	Portion of the Groundwater Ingestion Exposure Route Values
Chromium	0.10	Migration to Groundwater	Portion of the Groundwater Ingestion Exposure Route Values
Lead	0.0075	Migration to Groundwater	Portion of the Groundwater Ingestion Exposure Route Values

Notes:

Soil Samples will be prepared using ASTM-D3987 (Standard Test Method for Shake Extraction of Solid Waste with Water)

Samples will be analyzed for the above metals using USEPA Methods (6000 & 7000 series)

TABLE THREE
GROUND WATER ANALYTICAL METHODS
& ACTION LEVELS

Robertson-Ceco Corporation
Lemont, Illinois

Metals (mg/L)																										
Class I Groundwater	Antimony	0.006	0.05	2	Barium	0.004	Cadmium	0.005	Chromium	0.1	Lead	0.0075	Mercury	0.002	Nickel	0.1	Selenium	0.05	Silver	0.05	Thallium	0.002	Vanadium	0.049	Zinc	5

Notes:

Ground water samples will be analyzed for total metals using USEPA Methods (6000 & 7000 series)

Class | Ground Water = Class | Ground Water Standards according to 35 IAC 620.410



CARLSON ENVIRONMENTAL, Inc.

ATTACHMENT C
PERSONNEL QUALIFICATIONS



CARLSON ENVIRONMENTAL, Inc.

RICHARD J. CARLSON

EDUCATION

Doctor of Philosophy, Public Administration, University of Illinois
Master of Science, Communications, University of Illinois
Bachelor of Science, Communications, University of Illinois

PROFESSIONAL EXPERIENCE

President, Carlson Environmental, Inc., 1988-Present

- Represents clients in negotiating permits, compliance orders and consent decrees with state and federal regulatory agencies.
- Manages environmental compliance audits and assists with the development of compliance management systems.
- Manages environmental assessments of a wide variety of commercial and industrial facilities for real estate transactions, mergers, and acquisitions.

Director, Illinois Environmental Protection Agency, 1981-1988

Administered programs under Superfund, the Clean Air Act, the Clean Water Act, the Resource Conservation and Recovery Act and the Safe Drinking Water Act. As Director:

- Initiated the state's first hazardous waste site cleanup program.
- Managed the development and implementation of a statewide ground water protection program based upon the concept of well head protection.
- Served as co-chairman of a task force to improve emergency preparedness planning in the chemical industry.
- Managed a Federal/State program of financial assistance to local government for construction or upgrading of wastewater treatment facilities; annual grant expenditures averaged \$260 million.
- Developed a demonstration program for mobile incineration at hazardous waste cleanup sites utilizing rotary kiln technology.



CARLSON ENVIRONMENTAL, Inc.

Assistant to Governor James R. Thompson, 1977-1981

Served as policy advisor to the Governor for energy, environmental and other natural resource issues. Responsibilities included program coordination of seven state agencies; coordinating preparation of the Governors's legislative program; advising the Governor on whether to sign or veto legislation.

Prepared reorganization plans creating the Departments of Energy and Natural Resources, Commerce and Community Affairs, and Administrative Services.

Director of Research, Council of State Governments, 1974-1977

Research Director for a non-profit agency promoting intergovernmental cooperation among the 50 state governments.

SELECTED PROFESSIONAL ACTIVITIES

- Co-chair, Environmental Control Committee, Chicagoland Chamber of Commerce, 1988-1993.
- Staff Chairman, Task Force on Global Climate Change, National Governors' Association, 1989-1990.
- Director, Illinois Asbestos Abatement Authority, 1988.
- Commissioner, Ohio River Valley Water Sanitation Commission, 1981-1988.
- Member, Water Quality Board, International Joint Commission, 1985-1988.
- Chairman, Great Lakes Environmental Administrators, 1987-1988.

PROFESSIONAL AFFILIATIONS

- Air and Waste Management Association
- Association of Ground Water Scientists and Engineers

DIRECTORSHIPS

Continental Waste Industries, Inc.



CARLSON ENVIRONMENTAL, Inc.

EDWARD E. GARSKE

EDUCATION

Bachelor of Science, Water Chemistry, College of Natural Resources, University of Wisconsin

REGISTRATIONS / CERTIFICATIONS

Certified Hazardous Materials Manager-Master Level (Institute of Hazardous Materials Management).

Accredited to conduct building inspections under the provisions of the Asbestos Hazard Emergency Response Act (Midwest Environmental and Industrial Health Training Center, University of Illinois, Chicago).

PROFESSIONAL EXPERIENCE

Vice President of Operations, Carlson Environmental, Inc., 1994-Present

Manages all field operations. Directs business management programs and related staff. Supervises all project-related activities and project management.

Project Manager, Carlson Environmental, Inc., 1989-Present

Manages projects involving the design and implementation of ground water monitoring systems and soil/sediment sampling programs. Supervises underground storage tank removals, including the remediation of contaminated soils and groundwater. Conducts environmental site assessments. Provides oversight for a wide range of remedial action projects.

Has managed projects involving building inspections to identify and sample asbestos-containing building materials (ACBM), quantify ACBM, prepare bid documents, assist in contractor selection and oversee project management.

Superfund Technical Assistance Team, Roy F. Weston, Inc., 1988-1989

Under the Superfund contract to the USEPA (Region V), conducted assessments of suspected hazardous waste sites, including abandoned plating facilities, landfills and surface impoundments. Performed air monitoring, sampling and lab packing. Specialized in soil gas analysis to determine extent of contaminated ground water plumes. Prepared cost projections for removal actions and arranged for transportation and disposal of contaminated materials.



CARLSON ENVIRONMENTAL, Inc.

Research Scientist, Amoco Chemicals Research Center, 1986-1988

Performed research in catalyst screening and development. Specialized in research and development of new co-polymers. Assisted in the construction and operation of a pilot plant to study ethylene oxidation.

Aquatic Organic Chemist, Illinois State Water Survey, 1980-1986

Supervised and instructed laboratory personnel in field operations and various field/laboratory analyses. Designed and implemented a variety of ground water monitoring programs. Projects included the evaluation of various types of ground water sampling devices to determine their impact on water chemistry.

PUBLICATIONS

Co-author, "An Inexpensive Flow-Through Cell and Measurement System for Monitoring Chemical Parameters in Ground Water," Ground Water Monitoring Review, 6,3, p. 79-84.

Co-author, "Practical Guide for Ground Water Sampling," Contract report to RSKERL-USEPA, Ada, OK, February 1985.

Co-author, "Sampling Tubing Effect on Ground Water Samples," Analytical Chemistry, February 1985.

Co-author, "A Laboratory Evaluation of Ground Water Sampling Mechanisms," Ground Water Monitoring Review, 4,2, p. 32-41.

Co-author, "Nitric Oxide Interference on the Azide-Modified Winkler Oxygen Determination," Analytical Chemistry, May 1985

Patent: Flow-Through Cell for Monitoring Ground Water Samples.



CARLSON ENVIRONMENTAL, Inc.

KENNETH W. JAMES

EDUCATION

Master of Business Administration, University of Chicago
Bachelor of Science, Chemical Engineering, Illinois Institute of Technology

REGISTRATIONS / CERTIFICATIONS

Registered Professional Engineer, Illinois, Indiana, Ohio and Wisconsin.

PROFESSIONAL EXPERIENCE

Director of Engineering, Carlson Environmental Inc., 1995-Present

Oversees all engineering operations, including underground storage tank investigations, removals, and remediation measures.

Project Manager/Engineer, Carlson Environmental, Inc. 1991-Present

Manages underground storage tank investigations, tank removals and remediation of petroleum contaminated soils and ground water. Manages leaking underground storage tank (LUST) Site Classifications and prepares associated Illinois Environmental Protection Agency (IEPA) documentation. Designs and implements soil sampling and ground water monitoring programs. Manages the preparation of documentation required by the IEPA for the reimbursement of funds spent to remediate LUST sites. Provides professional engineering oversight for TSCA decontamination activities, RCRA Remedial Facility Investigations and RCRA closures. Prepares operating permits for the Clean Air Act Permit Program.

Marketing Manager, R.O.C. Services, 1989-1991

Developed and implemented marketing strategies for delivery of information systems to promote quality assurance, project management and applications' development for clients in education, manufacturing, government and public utilities.

Manager, Northern Illinois Gas Company, 1973-1989

From 1987 to 1989, as Construction Manager for Ni-Gas' Eastern Operating Division, planned and implemented additions to the Eastern Operating Division's physical distribution system. Directed a staff of 47 and managed \$8 million capital budget.



CARLSON ENVIRONMENTAL, Inc.

From 1984 to 1987, as Plant Manager of Ni-Gas' Synthetic Natural Gas (SNG) Plant, managed all facets of plant operations. Supervised a staff of 60 and \$9 million annual budget. Implemented facility shutdown plan.

From 1982 to 1984, as Operations Manager of the SNG Plant, maximized production capacity through effective equipment maintenance and repair activities. Supervised a staff of 30 and managed \$3 million annual budget.

From 1973 to 1982, as Engineer/Manager, coordinated the design of a Coal Gasification Demonstration Plant project to manufacture Methane gas from Illinois high sulfur coal. This included overseeing the conceptual design of the plant by the Dravo Engineering firm, Pittsburg Pennsylvania.

Sherwin-Williams Paint Company, 1965-1973

From 1965-1973, as Assistant Chemical Engineer/Pilot Plant Operator, supervised pilot plant operations for the development of organic chemical processes for the efficient production of organic chemicals used in the manufacture of pigments for paint production.

Professional Affiliations

- National Society of Professional Engineers
- Illinois Society of Professional Engineers
- American Institute of Chemical Engineers
- Association of Ground Water Scientists and Engineers



CARLSON ENVIRONMENTAL, Inc.

VALERIE A. FARRELL

EDUCATION

Master of Environmental Management, Illinois Institute of Technology (in progress)
Bachelor of Science, Loyola University of Chicago

CONTINUING EDUCATION

Completed "Ground-Water Monitoring and Sampling Technology: Design, Installation, Development, and Sampling of Ground-Water Monitoring Wells" course through the American Society for Testing and Materials.

Completed "Conducting Historical Research According to ASTM Standard E 1527-94."

REGISTRATIONS/CERTIFICATIONS

Certified Hazardous Materials Manager (CHMM), Institute of Hazardous Materials Management

Accredited to conduct building inspections under the provisions of the Asbestos Hazard Emergency Response Act.

PROFESSIONAL EXPERIENCE

Site Assessment Manager/Project Manager, Carlson Environmental, Inc., 1993-Present

Manages a wide variety of hazardous waste projects including RCRA closures and corrective actions. Coordinates and conducts environmental assessments conducted for real estate transactions. Manages the preparation of environmental permit applications. Performs Phase II Environmental Assessment soil and groundwater sampling activities.

Staff Scientist, Dynamac Corporation, 1991-1993

Managed remedial investigation/feasibility studies (RI/FS) in accordance with CERCLA guidance. Conducted compliance field work under RCRA guidelines. Also conducted hazardous waste contamination investigations.

Directed numerous preliminary assessments and visual site inspections of former RCRA TSD facilities in US EPA Region V. Assessments included analysis of facility operations; waste generating processes; waste handling practices; regulatory history



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and compliance status; identification of potential releases and recommendations.

Provided technical oversight of Potentially Responsible Party (PRP) removal actions in accordance with Administrative Orders. Additional activities included review of technical documents, QA/QC, Health & Safety, and material transportation procedures.

Assistant Unit Manager, Ecology and Environment, Inc., 1990-1991

Assisted in supervising a group. Responsible for tracking project progress, reviewing technical reports, and training new employees. Coordinated many phases of pre-remedial investigations of potentially hazardous waste sites. CERCLA pre-remedial investigation responsibilities included: State and Federal file reviews; PRP interviews; work plan, sampling plan, and Health & Safety plan preparation; soil sampling; interpretation of chemical analysis and results; assessment of contamination and receptors; report preparation; HRS and Revised HRS scoring package preparation.



CARLSON ENVIRONMENTAL, Inc.

MARGARET M. KAROLYI

EDUCATION

Master of Science, Environmental Engineering, Illinois Institute of Technology (In progress)

Bachelor of Science, Chemical Engineering, Michigan State University

CONTINUING EDUCATION

Completed "Monitoring Well Technology: Design, Installation and Sampling" course through the Department of Engineering at the University of Wisconsin - Madison College of Engineering.

REGISTRATIONS/CERTIFICATIONS

Professional Engineer Intern (EIT), Illinois

Accredited to conduct building inspections under the provisions of the Asbestos Hazard Emergency Response Act as amended by the Asbestos School Hazard Abatement Reauthorization Act (Midwest Environmental and Industrial Health Training Center, School of Public Health, University of Illinois, Chicago).

PROFESSIONAL EXPERIENCE

Director of Field Investigations/Project Manager, Carlson Environmental, Inc., 1992-Present

Designs and manages soil and ground water sampling programs. Supervises underground storage tank (UST) removals. Conducts UST related soil and ground water investigations. Prepares reports documenting UST removals and associated remediation activities for submittal to appropriate state agencies. Performs indoor air quality evaluations. Prepares permit applications for waste water and storm water discharges and air pollution control applications.

PROFESSIONAL AFFILIATIONS

- Association of Groundwater Scientists and Engineers



EDUCATION

Master of Science, Geology, Southern Illinois University
Bachelor of Arts, Geology and Geograpgy, Augustana College

REGISTRATIONS / CERTIFICATIONS

Certified Professional Geologist, CPG-9963

PROFESSIONAL EXPERIENCE

Director of Remedial Services/Project Manager, Carlson Environmental, Inc., 1994-Present

Manages a variety of environmental investigation and remediation projects under RCRA, CERCLA, and UST regulations. Designs soil and ground water investigation programs using innovative technologies. Manages underground storage tank investigations, tank removals and remediation of contaminated soils. Directs site classifications for LUST sites and prepares associated IEPA documentation. Oversees the preparation of permit applications for waste and storm water discharges and air pollution control applications.

Project Hydrogeologist, Tower Environmental, Inc., 1993-1994

Managed projects involving the investigation and remediation of soil and ground water contamination related to underground storage tank systems. Developed and implemented project plans, including scheduling and management of field personnel, data evaluation and completion of contamination assessment reports for State review and approval.

Staff Geologist, Harding Lawson Associates, 1991-1993

Responsible for managing and directing all phases of environmental projects (RCRA, CERCLA and UST removals) including budgeting, data collection, reporting and client communication. Provided training of field personnel and evaluated equipment purchases.

Research Assistant/Teaching Assistant, Southern Illinois University, 1985-1987

Participated in geologic research in conjunction with the fossil fuel / sedimentology departments. Teaching assistant for earth science, historical geology, and other geology classes.



CARLSON ENVIRONMENTAL, Inc.

Geologist/Technician, Soil and Material Consultants, Inc., 1985-1987

Classified soils in the field and laboratory, tested physical characteristics of road construction materials and supervised contractors in the preparation of soil for development purposes.

PROFESSIONAL AFFILIATIONS

- Member of the American Institute of Professional Geologists, CPG-9963
- Member of the Association of Engineering Geologists
- Member of the Association of Ground Water Scientists and Engineers
- Member of Illinois Association of Environmental Professionals
- Member of the Illinois Groundwater Association



EDUCATION

Master of Liberal Arts, The University of Chicago, (in progress)
Masters Study, Public Policy, The University of Chicago
Bachelor of Science, Resource Development, Michigan State University

PROFESSIONAL EXPERIENCE

**Manager of Administration/Assistant to the President, Carlson Environmental, Inc.,
1994-Present**

Supervises company Support Staff and administrative development. Creates proposals and company information packages for prospective and existing clients. Develops, manages and maintains contracts for environmental services. Coordinates human resources activities and functions as Benefits Administrator for corporate group health policy. Maintains information on company fixed assets. Acts as Administrator for Commercial General Liability, Consultants Environmental Liability, and Workers Compensation Insurance Policies. Tracks proposal, project, and client development information for program management and marketing purposes.



CARLSON ENVIRONMENTAL, Inc.

SAMUEL T. BODINE III

EDUCATION

Bachelor of Arts, Environmental Studies, Lake Forest College

CONTINUING EDUCATION

Completed "Ground-Water Monitoring and Sampling Technology: Design, Installation, Development, and Sampling of Ground-Water Monitoring Wells" course through the American Society for Testing and Materials.

Completed "Risk-Based Corrective Action (RBCA) Training" course through the Department of Engineering at the University of Wisconsin - Madison College of Engineering.

REGISTRATIONS/CERTIFICATIONS

Accredited to conduct building inspections under the provisions of the Asbestos Hazard Emergency Response Act.

Accredited Site Assessor by the Department of Industry, Labor and Human Relations in the State of Wisconsin.

PROFESSIONAL EXPERIENCE

Staff Scientist, Carlson Environmental, Inc., 1994-Present

Conducts Phase I environmental assessments and building inspections for asbestos-containing building materials. Performs Phase II Environmental Assessment soil and groundwater sampling activities. Conducts site classifications for LUST sites and prepares associated IEPA documentation. Prepares permit applications for waste water and storm water discharges and air pollution control applications.

PROFESSIONAL AFFILIATIONS

Illinois Association of Environmental Professionals



CARLSON ENVIRONMENTAL, Inc.

ELIZABETH A. SELTZER

EDUCATION

Bachelor of Science, Environmental Biology, Eastern Illinois University

REGISTRATIONS/CERTIFICATIONS

Accredited to conduct building inspections under the provisions of the Asbestos Hazard Emergency Response Act.

PROFESSIONAL EXPERIENCE

Senior Environmental Scientist, Carlson Environmental, Inc., 1995-Present

Conducts Phase I environmental assessments and building inspections for asbestos-containing building materials. Oversees the coordination of technical information for Phase I environmental assessment reports.

Environmental Scientist, TRC Environmental Corporation, 1992-1995

Conducted Phase I and Phase II environmental assessments. Performed RCRA compliance evaluation inspections of hazardous waste facilities. Managed work performed under the USEPA Region V Enforcement Pilot Project for the RCRA Enforcement Branch.

Environmental Biologist, Ecology and Environment, Inc., 1991

Performed preliminary assessments and expanded site inspections. Reviewed background literature and interviewed agency representatives and facility employees. Determined Federal Hazard Ranking System scores.



EDUCATION

Master of Science, Geology, University of Illinois-Chicago (In progress)
Bachelor of Science, Environmental Health Science, Illinois State University

REGISTRATIONS/CERTIFICATIONS

Certified Building Inspector, Management Planner, and Air Sampling Professional.

NIOSH 582 Training. Certificate of competency for sampling and evaluating airborne asbestos dust

PROFESSIONAL EXPERIENCE

Project Geologist, Carlson Environmental, Inc., 1995-Present

Conducts hydrogeological investigations; provides project management for site remediation. Conducts Phase I environmental assessments. Manages underground storage tank (UST) removals and remediation.

Environmental Scientist, Great Lakes Group, Inc., 1993-1995

Conducted Phase I and Phase II environmental assessments. Supervised the removal of underground storage tanks (USTs) and related soil remediation programs.

Staff Environmental Scientist, Harding Lawson Associates, 1989-1992

Conducted Phase I environmental assessments, soil and groundwater surveys and remediation, and industrial hygiene surveys. Managed projects involving inspections for asbestos-containing building materials and the implementation of abatement programs.

Industrial Hygiene Technician, Caterpillar, Inc., 1989

Assisted Senior Industrial Hygienist in conducting various plant-wide environmental assessments. Assessed employee workplace exposure to contaminants.



CARLSON ENVIRONMENTAL, Inc.

PHILLIP A. HOEKSEMA

EDUCATION

Bachelor of Science, Geology, Illinois State University

REGISTRATIONS/CERTIFICATIONS

Accredited to conduct building inspections under the provisions of the Asbestos Hazard Emergency Response Act.

PROFESSIONAL EXPERIENCE

Associate Staff Geologist Technician, Carlson Environmental, Inc., 1995-Present

Conducts Phase I environmental assessments and building inspections for asbestos-containing building materials. Performs Phase II Environmental Assessment soil and groundwater sampling activities. Conducts site classifications for LUST sites and prepares associated IEPA documentation. Develops plans and drawings through computer aided design (CAD) for inclusion in project reports. Prepares technical data for inclusion in project reports. Prepares documentation required by the Illinois Environmental Protection Agency for the reimbursement of funds spent to remediate underground storage tank releases.



CARLSON ENVIRONMENTAL, Inc.

JEFFREY L. VOELKER

EDUCATION

Master of Environmental Management, Illinois Institute of Technology (in progress)
Bachelor of Arts, Biology and English, St. Louis University

REGISTRATIONS/CERTIFICATIONS

Accredited to conduct building inspections under the provisions of the Asbestos Hazard Emergency Response Act.

PROFESSIONAL EXPERIENCE

Environmental Technician, Carlson Environmental, Inc., 1996-Present

Conducts Phase I environmental assessments and building inspections for asbestos-containing building materials. Assists in a variety of field work, including Phase II Environmental Assessment soil and groundwater sampling activities. Develops plans and drawings through computer aided design (CAD) for inclusion in project reports. Prepares permit applications for waste water and storm water discharges and air pollution control applications. Prepares technical data for inclusion in project reports.



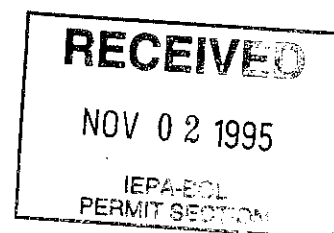
CARLSON ENVIRONMENTAL, Inc.

August 29, 1995

P-6005

Robertson-Ceco Corporation
c/o Mr. Cliff Lake
McBride Baker & Coles
500 West Madison Street
Chicago, Illinois 60661-2511

Subject: Soil/Ground Water Sampling and RFI Report
Lemont Site
Wills County, Illinois



Dear Mr. Lake:

Carlson Environmental, Inc. (CEI) welcomes the opportunity to provide the Robertson-Ceco Corporation (Client) with this proposal for environmental services at the above-referenced property. The Client shall be subject to the Terms and Conditions contained herein.

SCOPE OF SERVICES:

To assist the client in complying with the implementation of the remaining items listed in the Illinois Environmental Protection Agency (IEPA) September 11, 1986 letter for Corrective Action at the above-referenced site, CEI proposes to conduct the following tasks:

Soil Sampling

- Establish a sampling grid over the 25 acre site (approximately 24 sample locations);
- Collect soil samples for analysis from each of the 24 grid locations;
- Analyze one collected sample from each borehole, (representing the finest grain material) for the parameters previously established by the IEPA and shown in Table One;

ATT 1



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Robertson-Ceco Corporation
c/o Mr. Cliff Lake
McBride Baker & Coles

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- Analyze two collected samples from each borehole, if possible, for the parameters previously established by the IEPA and shown in Table Two;
- Collect and analyze four additional surface samples from the perimeter of the subject site for the parameters listed on Table One;
- Collect and analyze four samples from off-site areas, representative of background conditions, for the parameters listed in Table One;

Water Sampling

- Evaluate existing Ground Water Monitoring Network;
- Conduct hydraulic conductivity testing on all ground water monitoring wells found to still be intact;
- Determine the depth to ground water in each well found to be intact to facilitate the calculation of ground water flow direction in the upper aquifer at the site;
- Collect and analyze a ground water sample from each well found to be intact for the parameters listed in Table Three;
- Collect 6 surface water and 6 sediment samples from the ditch at the south property line;
- Analyze each of the surface water and sediment samples for the parameters listed in Table One.

General/Research

- Survey the site to determine the location and elevation of all boreholes, wells, site boundaries, units and other structures or roads at the subject site;
- Research active supply/injection wells in the vicinity of the subject site, if necessary;



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Reports

- Prepare quarterly progress report for submission to the IEPA detailing the status of the investigation.
- Prepare an RFI report, including P.E. Review and Certification, for submission to the IEPA detailing the results of the investigation.

CEI will be able to begin work on this project within one week of notice to proceed. The placement of the boreholes is dependent upon field observations and physical constraints and will be chosen during the field activities.

All boreholes will be advanced with a drill rig using hollow stem augers. Samples will be collected using split-spoon samplers. Each soil sample will be screened for physical evidence of contamination such as staining. Soil characteristics and other pertinent observations will be recorded on borehole logs. All augers will be steam-cleaned between each borehole and the split-spoon samplers will be either steam-cleaned or cleaned with analconox solution between samples.

CEI will collect up to 10 soil samples from each of the boreholes for potential laboratory analysis. Upon completion of the sampling event, CEI will select up to 3 soil samples for analysis. CEI will submit soil samples consisting of the finest grain materials for analysis. All samples will be analyzed on a normal one-week turn-around basis. Additional soil samples collected but not submitted for immediate analysis will be retained for possible laboratory analysis. Any additional laboratory analysis must be performed within 6 months of the sample collection date. Note: samples for Hex-chromium have a holding time of only 24 hours. Subsequent laboratory analysis will be performed only at the Client's direction and at additional cost.

All samples will be placed in clean glass jars with teflon-lined lids. The samples will be stored on ice in an insulated container. Upon completion of the site sampling, all samples will be shipped to qualified analytical laboratory for analysis. All samples will be analyzed at the laboratory in accordance with the procedures contained in SW-846.

To determine if ground water has been impacted each intact ground water monitoring well will be developed using a bailer or bladder pump. Once the wells are developed, a sample from each well will be collected after a minimum of three well volumes from each well have been removed. All samples will be placed in plastic bottles or clean



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glass bottles with teflon-lined lids. The samples will be stored on ice in an insulated container prior to and during shipment to the laboratory.

It should be understood that drilling activities may be extended if subsurface obstructions are encountered or weather conditions inhibit field activities. Any time or material necessary to complete the project beyond the estimated scope of work outlined in this proposal will be charged on a "Time and Material" basis according to CEI's standard rate schedule.

Prior to emplacing the boreholes, CEI will contact an underground utilities locating service to identify natural gas, electrical, cable, telephone and other underground utilities in the area to be drilled. The Client is responsible for arranging and providing access to the site and for informing CEI regarding the location of sewers, water mains and other utilities. CEI is not responsible for repairing property damage incurred during or as a result of drilling activities.

All work will be conducted following CEI's corporate and site specific health and safety plans, including the use of proper PPE.

AUTHORIZATION:

CEI will need your authorization to proceed as soon as possible. Authorization to proceed can be initiated by signing the CEI Proposal Acceptance/Acknowledgment Page (page eighteen) of the enclosed contract forms and returning the original contract and proposal to CEI (in order to expedite a project, a signed Acceptance/Acknowledgment form may be faxed to CEI at 312/346-6956, however, the executed contract must be subsequently mailed to CEI by the Client). Please retain a photocopy of the contract for your records.

DURATION OF PROPOSAL:

It is understood that the estimated costs reflected in this proposal are valid for a period of thirty (30) days. Unless accepted prior to the expiration of said 30-day period, CEI reserves the right to review the proposed basis of charges and fees to allow for changing costs as well as to adjust the time of performance to conform to work loads. No contract between the parties shall arise until this proposal is acknowledged by a



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Robertson-Ceco Corporation
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representative of CEI as provided on page eighteen, CEI Proposal Acceptance/Acknowledgment form.

COSTS:

CEI works on a time and materials basis according to the enclosed rate schedule. The estimated project cost is **\$144,233** as shown below. The estimated cost for this scope of work assumes that any water or soils generated during the sampling events, will be disposed of on-site and will not be containerized.

Soil Sampling

Labor

Field Sampling ¹	\$ 18,500
Project Management/P.E. Review	<u>8,000</u>
Sub-total	\$ 26,500

Expenses/Equipment

Equipment/Materials ²	\$ 2,975
Sub-total	<u>\$ 2,975</u>

Subcontractors

Analytical ³	\$ 12,125
Drilling Services ⁴	13,800
Survey	<u>10,000</u>
Sub-total	\$ 35,925
TOTAL	\$ 65,400



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Water Sampling

Labor

Field Sampling ¹	\$ 7,500
Project Management/P.E. Review	<u>3,250</u>
Sub-total	\$ 10,750

Expenses/Equipment

Equipment/Materials ²	\$ 1,950
Sub-total	\$ 1,950

Subcontractors

Analytical ⁵	\$ 11,320
Sub-total	\$ 11,320

TOTAL	\$ 24,020
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Report/Research

Labor

Research	\$ 1,000
Report/Client Correspondence	30,000
Project Management/P.E. Review	<u>3,000</u>
Sub-total	\$ 34,000

Expenses/Equipment

Equipment/Materials ²	\$ 2,000
Sub-total	\$ 2,000

TOTAL	\$ 36,000
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Project Sub-total	\$125,420
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Project Contingency (15%)

\$ 18,813

PROJECT TOTAL

\$144,233

- ¹ Includes time on-site for sampling and time to package and send samples to the laboratory.
- ² This cost includes sampling materials and equipment, environmental insurance and vehicle charges.
- ³ Includes the analysis of 35 soil samples (one from each borehole plus four background, four additional perimeter surface samples and three duplicates) for the parameters listed in Table One at \$235 each and the analysis of 52 soil samples (one from each borehole plus four duplicates) for the parameters listed in Table Two at \$75 each. All sample will be analyzed on a normal one-week turn-around.
- ⁴ Drilling services include a mobilization charge, use of the drill rig, and labor cost.
- ⁵ Includes the analysis of 16 ground water samples (one from each monitoring well plus one duplicate and one blank) for the parameters listed in Table Three at \$500 each and the analysis of 6 surface water and 6 sediment samples for the parameters listed in Table One at \$235 each. All samples will be analyzed on a normal one-week turn-around.

TABLE ONE SOIL ANALYTICAL PARAMETERS - Expanded List ROBERTSON-CECO PROPERTY - LEMONT, ILLINOIS	
Metals - TOTAL	Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Lead, Mercury, Nickel, Selenium, Silver, Thallium, Vanadium and Zinc

TABLE TWO SOIL ANALYTICAL PARAMETERS - Basic List ROBERTSON-CECO PROPERTY - LEMONT, ILLINOIS	
Metals - TOTAL	Lead, Cadmium and Hexavalent Chromium



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TABLE THREE GROUND WATER MONITORING PARAMETERS ROBERTSON-CECO PROPERTY - LEMONT, ILLINOIS	
Metals - TOTAL	Arsenic, Barium, Cadmium, Chromium, Lead, Mercury, Selenium, Silver, Iron, Manganese, Sodium, Chloride, and Hexavalent Chromium
Other Inorganics	Chloride, Sulfate, Phenolics
Organics	Non-purgeable Organic Carbon, Total Organic Halogens (TOX)
pH	
Specific Conductance	

Estimates for subsequent investigations, if required, and/or site remediation are dependent on information collected during this assessment and can be quoted upon completion of the activities proposed herein.

It will be the Clients responsibility to obtain permission and access for the collection of off-site background soil samples, as well as to provide access onto the subject site for the purposes of conducting the above-referenced scope of work.

The attached Payment Terms shall apply to the services proposed herein and all agreements between CEI and Client.

CEI appreciates the opportunity to provide the Robertson-Ceco Corporation, with this proposal. Should you have any questions regarding this proposal or other CEI environmental service capabilities, please do not hesitate to contact me or Richard Carlson at 312/346-2140.

Sincerely,

CARLSON ENVIRONMENTAL, INC.

Edward E. Garske, CHMM
Project Manager

Enclosures

August 29, 1995

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CARLSON ENVIRONMENTAL, Inc.

CEI PAYMENT TERMS

1. Invoices shall be payable upon receipt. All outstanding balances remaining unpaid thirty (30) days after the invoice date shall be subject to interest at the rate of 1.5 percent per month or the maximum permissible under applicable law, whichever is less, starting from the invoice date and continuing until paid in full. Payments received will be applied first, to collection costs (including reasonable attorney's fees), if any, second to accrued interest and the balance of the payment, to any unpaid fees.
2. CEI may, after giving seven (7) days written notice, suspend services under this agreement, without liability, until all past due amounts (including collection costs, reasonable attorneys' fees, fees and interest accrued) have been paid. Time is of the essence in payment of invoices, and timely payment is a material part of the consideration of any agreement between CEI and Client.
3. All rates are stated, and shall be paid, in United States Dollars.
4. All invoices not contested in writing within ten (10) business days of receipt are deemed accepted by the Client as true and accurate and are payable in full.



CARLSON ENVIRONMENTAL, Inc.

**CEI TERMS AND CONDITIONS
FOR ENVIRONMENTAL SERVICES**

1. Project Scope. Except as provided in Paragraph 3, the project scope will not be altered without mutual written agreement. For many projects some activities are often initially not fully definable. Unless the proposal provides otherwise, the proposed fees constitutes CEI's estimate of the fees required to complete the project as defined. Consequently, the fees estimated in the proposal shall not be deemed to be either a guaranteed maximum or a "guaranteed-not-to-exceed" amount with respect to the costs of performing the services identified in the project scope. In the event that the parties mutually agree in writing to change the scope of services described herein, cost differentials will be calculated based upon the attached Schedule of Standard Fees. If CEI personnel are called or subpoenaed for depositions, examinations, or court appearances, CEI shall be reimbursed on a time and materials basis for such matters and including all out-of-pocket costs incurred in connection with such matters.
2. Force Majeure. Costs and time schedule commitments in this proposal shall be subject to renegotiation for unreasonable delays caused by the Client's failure to provide specified facilities or information, or negligent acts or omissions of the Client or other contractors of the Client, delays authorized by the Client, or for delays caused by occurrences beyond CEI's control or force majeure, including but not limited to fires, floods, strikes, riots, explosions, adverse weather conditions not reasonably anticipated, unavoidable casualties, unavailability of labor or materials or services, process shutdown, acts of God or of the public enemy, courts orders, or acts, orders or regulations of any governmental agency. Work stoppage or interruption caused by any of the above may result in additional costs (reflecting a change in project scope) beyond that outlined in this proposal for performance of the work, entitling CEI to an adjustment to the cost and schedule.
3. Termination. Except as provided in the CEI Payment Terms, this agreement may be terminated in whole or in part in writing by either party in the event of a material failure by the other party to fulfill its obligations under this agreement through no fault of the terminating party, provided that no such termination may be effective unless the other party is given: (a) not less than ten (10) calendar days written notice of intent to terminate describing in detail the alleged breach; and (b) an opportunity for consultation with the terminating party prior to termination. In the event the breach is not cured within said 10-day



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period or such longer period as agreed upon in writing, this agreement shall terminate. A final invoice will be calculated on the first or fifteenth of the month (whichever comes first) following the receipt of a termination notice (the effective date of termination). The final invoice shall be calculated as follows.

- (i) Where the method of payment is based on a "lump sum," the final invoice will be based on the percentage of work completed to the effective date of termination.
- (ii) Where the method of payment is based on time and materials, the final invoice will be based on reimbursements for all services and expenses associated with the project up to the effective date of termination.
- (iii) Where the method of payment is based on the cost plus a fixed fee, the final invoice will be based on reimbursement for all costs incurred to the effective date of termination and a pro-rata share of the fixed fee.

4. Insurance.

- (a) CEI shall maintain policies of insurance for the coverages shown on a Certificate of Insurance to be provided by CEI.
- (b) Upon the mutual agreement of CEI and the Client, CEI shall procure and maintain one or more policies of insurance in addition to the types of insurance described on the insurance certificate, if available, or procure policies of insurance coverage of the same type with increased policy limits, or name the Client as an additional insured, or furnish a bond to the Client. Additional premiums and costs incurred by CEI in connection with obtaining such additional or different policies of insurance or a bond or naming the Client as an additional insured shall be borne solely by the Client as an additional expense and cost of the services to be provided by CEI under this agreement, and the Client shall reimburse CEI for such additional insurance or bond expenses upon request by CEI. CEI shall, at the Client's request, provide the Client with a certificate of insurance or other satisfactory evidence that such additional insurance has been



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obtained and that such policies or bonds are maintained in force throughout the period in which CEI provides services to the Client under this agreement.

5. Indemnification of Client. CEI shall indemnify, defend and hold harmless the Client from any claims, costs (including reasonable attorneys' fees and court and arbitration costs), expenses, direct or indirect, causes of action, penalties, liabilities, losses and damages actually sustained and incurred by the Client, or for which the Client is legally liable, which are caused solely by the acts, errors or omissions of CEI, its employees or agents which constitute negligence or willful misconduct in connection with the project. Notwithstanding any other provision herein, CEI shall not be liable, and shall have no obligation to indemnify the Client for any claims, costs (including reasonable attorneys' fees and court and arbitration costs), expenses, direct or indirect, causes of action, penalties, liabilities, losses and damages, including but not limited to consequential or incidental damages arising out of or which, in the aggregate, exceed \$1 million or, the total compensation received by CEI hereunder, whichever is less, and the Client hereby forever releases and discharges CEI, its directors, officers, shareholders, employees and agents from any liability from claims, costs (including reasonable attorneys' fees and court and arbitration costs), expenses, direct or indirect, causes of action, penalties, liabilities, losses and damages sustained and incurred by the Client in excess of such amount. Under no circumstances shall CEI have any obligation to pay any losses or damages for delay, lost profits, or other consequential or incidental damages of any kind or nature regardless of whether CEI or its officers, employees or agents knew or should have known that such damages may occur.
6. Indemnification of CEI.
 - (a) The Client agrees to indemnify, defend and hold harmless CEI and its directors, officers, shareholders, employees, agents and subcontractors from any claims, costs (including reasonable attorneys' fees and court and arbitration costs), expenses, direct or indirect, causes of action, penalties, liabilities, losses and damages actually sustained and incurred by CEI, or for which CEI is found to be legally liable, arising from, alleged to arise from or caused by, in whole or in part, the negligence or other acts, errors, or omissions of the Client, its independent contractors (other than CEI), employees or agents, or any third party in connection with the project, and notwithstanding whether



CARLSON ENVIRONMENTAL, Inc.

CEI is determined to be partly, or together with such Client, its independent contractors, employees or agents or any third party, jointly negligent, or which arise from the Client's failure to perform its obligations under this agreement. Thus, Client does not agree to indemnify, defend and hold harmless CEI for any such matters where CEI is determined to have been solely negligent or to have engaged in willful misconduct with respect to such matter.

- (b) CEI has neither created nor contributed to the creation or existence of any type of hazardous or toxic wastes, materials, chemicals, compounds, or substances, or any other type of environmental hazard or pollution, whether latent or patent, or the release thereof or the violation of any laws or regulation relating thereto at the Client's premises or in connection with the project, and the Client forever discharges and releases CEI from all liability therefor. The Client shall indemnify, defend and hold harmless CEI and its affiliates, directors, officers, shareholders, employees, agents and subcontractors from any and all claims, costs (including reasonable attorneys' fees and court and arbitration costs), expenses, direct or indirect, causes of action, penalties, liabilities, losses and damages actually sustained and incurred by CEI in connection with the creation or existence of any type of hazardous or toxic wastes, materials, chemicals, compounds, or substances, or any other type of environmental hazard or pollution, whether latent or patent, or the release thereof or the violation of any law or regulation relating thereto at the Client's premises or in connection with the project or for which CEI is found to be legally liable, and notwithstanding whether CEI is determined to be partly, or together with Client or any other person or entity, jointly, negligent, except to the extent that such claims, costs (including reasonable attorneys' fees and court and arbitration costs), expenses, direct or indirect, causes of action, penalties, liabilities, losses and damages are solely caused by CEI's sole negligence, or willful misconduct in performing services under this agreement. This indemnification of CEI extends to claims against CEI which arise out of, are related to, or are based upon, the release of any contaminant or pollutant, whether sudden or not.
- (c) The Client recognizes that it may be impossible for CEI to know the exact composition of a project site's subsurface even after employing the most comprehensive exploratory program



CARLSON ENVIRONMENTAL, Inc.

reasonably possible. As a result, there is a risk that certain drilling and sampling processes may result in contamination of certain subsurface areas by linking various stratigraphic units not previously connected. Provided that CEI has used reasonable efforts to prevent and minimize such an event, was not solely negligent and did not engage in willful misconduct, in performing such drilling or sampling, the Client agrees to indemnify, defend and hold harmless CEI and its affiliates, directors, officers, shareholders, employees, agents and subcontractors against any claims, costs (including reasonable attorneys' fees and court and arbitration costs), expenses, direct and indirect, causes of action, penalties, liabilities, losses and damages arising from or alleged to arise from such cross-contamination, notwithstanding whether CEI is determined to be partly, or together with Client or any other person or entity, jointly negligent, and releases and waives any claim it may have against CEI as a result thereof.

7. Entire Agreement. It is hereby further understood and agreed that the express terms of the attached proposal and fee schedules, Payment Terms and these Standard Terms and Conditions constitute the entire agreement between CEI and the Client, that there are no other agreements, representations, or understandings between CEI and the Client relating to the proposal or the services to be performed by CEI in accordance therewith, and that all agreements, representations, and understandings of the parties with respect to the services to be performed by CEI are merged with and superseded by the terms of the attached proposal and fee schedules, Payment Terms and these Standard Terms and Conditions. No provision of the proposal, fee schedules, Payment Terms or these Standard Terms and Conditions may be waived, altered, or modified in any manner, unless the same shall be set forth in writing and signed by duly authorized representatives of CEI and the Client. In the event that any purchase order, requisition, or other notice of authorization to proceed in accordance with the proposal contains any provision, term or condition which is in addition to or inconsistent with any of the provisions, terms or conditions of the proposal, the fee schedules, Payment Terms or these Standard Terms and Conditions, such additional or inconsistent provisions, terms or conditions shall neither become a part of this agreement nor be deemed to have been accepted by CEI by reason of CEI's commencement of services pursuant to any such purchase order, requisition or other notice of authorization to proceed. To the extent that there are inconsistent or contradictory terms, the proposal takes precedence over these Standard Terms and Conditions.



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8. No Warranty. CEI MAKES NO WARRANTY OR GUARANTEE, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION, WARRANTIES AS TO MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, REGARDING THE SERVICES OR WORK TO BE PROVIDED UNDER THE PROPOSAL OR ANY RELATED AGREEMENT. In the event CEI has to take legal action to be paid for its services or enforce this agreement and prevails, all collection and reasonable legal costs associated with such action will be reimbursed by the Client.
9. Ownership of Documents. Survey data, field notes, maps, computations, studies, reports, drawings and specifications prepared by or for CEI are and shall remain the property of CEI. Such materials are not to be used by the Client on other projects or extensions of this project except upon prior written consent of CEI. Such materials are not to be used or relied upon by any third party without the written consent of CEI. CEI may, upon default by the Client hereunder, withhold the delivery of any documents in its possession pending the cure of such default.
10. Client's Responsibilities.
 - (a) The Client shall furnish or cause to be furnished to CEI all material documents and information known to the Client or in its possession or control that relate to the identity, location, quantity, nature or characteristics of any hazardous materials or suspected hazardous materials on or under the project site and all reports, data, studies, plans, surveys, specifications and other information concerning surface and subsurface project site conditions in Client's possession or control which are necessary for proper performance of this agreement.
 - (b) The Client shall provide CEI with legal access to the project site and secure and pay for all necessary approvals, easements, assessments, permits and rights of entry required for the performance of this agreement.
 - (c) CEI may from time to time propose to perform excavation, manual augering, soil boring, drilling or monitoring well or recovery well installations on Client's property or on the property of others at Client's request, on behalf of the Client or for the benefit of the Client. Client typically would have the most detailed knowledge available as to any underground or manmade structure or utility ("Subsurface Objects") which might interfere



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with safe excavation/drilling activity. Therefore, in the event that such activity is performed by CEI, the Client shall disclose the presence and accurate location of all Subsurface Objects, relative to any proposed field excavation, test boring, well installation or other subsurface work which is the subject of this agreement. These identifications shall be by field tests by the Client, or be arranged by the Client with local utility companies, and shall be provided through the use of stakes and/or ground markings in the field. CEI will provide all necessary instruction to its field crews to stay at least 3 feet away from such identifications and location markings provided by the Client. The Client agrees to indemnify, defend and hold harmless CEI and its affiliates, directors, officers, shareholders, employees, agents, and subcontractors from all claims, losses, penalties, liabilities, causes of action, costs (including reasonable attorneys' fees and court and arbitration costs), expenses and damages resulting from damage to Subsurface Objects owned by the Client, the site owner or a third party occurring in the prosecution of the work by CEI, or its agents or subcontractors, where the presence and exact locations of said Subsurface Objects were not revealed accurately to CEI, except to the extent CEI was negligent or engaged in willful misconduct in damaging such subsurface objects, and shall, at the option of CEI, defend CEI and its agents and subcontractors and their respective officers, employees and agents, at the Client's sole expense in any litigation involving the same.

11. Assignment. The Client may not assign this agreement or any portion thereof without the prior written consent of CEI which consent may be withheld.
12. Taxes and Fees. If the services covered by this proposal or any agreement are subject to local, state or federal taxes (other than income taxes) or fees, such additional costs will be charged to the project and subject to reimbursement by the Client.
13. Use of Client's Name. Client agrees that CEI has authority to use its name as a client and a general description of the project and work or service performed as a reference for other prospective clients.
14. RCRA and CERCLA Status. Nothing contained within this agreement shall be construed or interpreted as requiring CEI to assume the status of a generator, or a storage, treatment or disposal facility as those terms



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are defined by the Resource Conservation and Recovery Act of 1976, 42 U.S.C. § 6901 et seq., as amended (hereinafter "RCRA"), or any state statute or regulation governing the generation, treatment, storage or disposal of hazardous waste or solid waste. If the work includes the transportation of waste materials from the project site, CEI may evaluate and recommend possible disposal sites for Client's use. However, under RCRA and the Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. § 9601, et seq., as amended ("CERCLA"), and the regulations thereunder, the generator of the waste has the ultimate legal liability for the evaluation and "selection" of the proper disposal site for its waste. CEI cannot accept ownership, title or responsibility for Client's waste or responsibility for the disposal of the Client's waste. The Client, by accepting this proposal, acknowledges that it shall evaluate and "select" the proper disposal site for treatment or disposal of its waste and shall be solely responsible therefore.

15. Notices. Any notice to be given under this agreement shall be in writing and shall be deemed given and received when delivered in person or deposited in the United States mail, certified mail, with postage prepaid, return receipt requested.
16. Applicable Law. The validity, interpretation and performance of this agreement shall be governed by and construed in accordance with the laws of the State of Illinois. The parties agree that the services provided pursuant to this agreement shall not be subject to the provisions of the Uniform Commercial Code.
17. Severability. If any provision of this agreement, or application thereof to any persons or circumstance, shall to any extent be held invalid, the remainder of this agreement or the application of such provision to persons or circumstances other than those as to which it is held invalid, shall not be affected thereby and each provision of this agreement shall be valid and enforced to the fullest extent permitted by law.
18. Survival. The terms and provisions of Paragraphs 6 through and including Paragraph 18 shall survive the termination or expiration of this Agreement between Client and CEI.



CARLSON ENVIRONMENTAL, Inc.

CEI PROPOSAL ACCEPTANCE/ACKNOWLEDGMENT

_____ ("Purchaser") acknowledges that the CEI proposal number P-6004 including the terms and conditions and attachments which are referenced below, constitutes the entire agreement between the parties and may not be supplemented, modified, superseded or otherwise altered, by any terms or conditions contained in any purchase order, requisition, notice of authorization to proceed, pre-printed form or other document of Purchaser.

- * CEI Payment Terms - 1 page
- * CEI Terms and Conditions for Environmental Services - 8 pages

By _____
Purchaser's Authorized Representative
(Please Print)

(Signature)

Date _____, 1995

Address of Purchaser's Authorized Representative

CEI ACKNOWLEDGMENT

CEI hereby acknowledges Client's above authorization to proceed, and agrees to perform the project work described in the subject CEI proposal.

By _____

Date _____, 1995



CARLSON ENVIRONMENTAL, Inc.

FEE STRUCTURE

August 1995

Personnel

Rate

Officer/Project Director	\$125-175/hour
Project Manager	\$ 90-125/hour
Sr. Scientist/Engineer/Geologist	\$ 80-120/hour
Staff Scientist/Engineer/Geologist	\$ 55-75/hour
Technician	\$ 45-55/hour
Clerical	\$ 35-50/hour

Protective Equipment

Level D	\$15/person/day
Level C	\$80/person/day
Level B	\$150/person/day

Field Equipment

Organic vapor analyzer	\$100/day
Photoionization detector	\$80/day
pH, specific conductivity, temperature	\$20/day/instrument
Combustible gas indicator	\$40/day
Bladder pumps and tubing	\$175/day
Sediment sampler	\$100/day
Soil gas sampling equipment	\$50/day
Hand sampling equipment	\$15/day
Motor vehicle	\$35/day plus \$.35/mile
Cellular phone	\$25/day
Camera/photos	\$25/day
Surveying equipment	\$50/day
Magnetometer	\$35/day
AMS Soil Sampling (Hand Auger)	\$50/day
Groundwater Purge Pump	\$25/day
Hermit Data Logger	\$125/day

Other

Direct expenses attributable to project (e.g., lodging, meals, transportation, supplies)	Cost plus 10%
Subcontracted services and equipment rental	Cost plus 20%





CARLSON ENVIRONMENTAL, Inc.

November 1, 1995

P-6037R

Robertson-Ceco Corporation
c/o Mr. Cliff Lake
McBride Baker & Coles
500 West Madison Street
Chicago, Illinois 60661-2511

Subject: 30 Year O & M for the Quarterly Ground Water Monitoring
Lemont Site
Wills County, Illinois

Dear Mr. Lake:

Carlson Environmental, Inc. (CEI) welcomes the opportunity to provide the Robertson-Ceco Corporation (Client) with this proposal for environmental services at the above-referenced property. The Client shall be subject to the Terms and Conditions contained herein.

SCOPE OF SERVICES:

To assist the client with 30 years of quarterly ground water monitoring required by the Illinois Environmental Protection Agency (IEPA) in regards to the closed waste storage unit at the above-referenced site, CEI proposes to conduct the following tasks:

- Collect for analysis ground water samples from five monitoring wells currently present around the waste storage unit using IEPA approved, low flow ground water sampling methods;
- Analyze each collected sample for the parameters previously established by the IEPA and shown in Table One; and,
- Prepare a report for submission to the IEPA detailing the results of the ground water monitoring event.

CEI will be able to begin work on this project within one week of notice to proceed and a report will be provided to the Client within two weeks of receipt of the final analytical results.

ATT 2





CARLSON ENVIRONMENTAL, Inc.

Robertson-Ceco Corporation
c/o Mr. Cliff Lake
McBride Baker & Coles

P-6037R

TABLE ONE QUARTERLY GROUND WATER MONITORING REQUIRED PARAMETERS ROBERTSON-CECO PROPERTY - LEMONT, ILLINOIS	
Metals - TOTAL	Arsenic, Barium, Cadmium, Chromium, Lead, Mercury, Selenium, Silver, Iron, Manganese, Sodium, Chloride, and Hexavalent Chromium
Other Inorganics	Chloride, Sulfate, Phenolics
Organics	Non-purgeable Organic Carbon, Total Organic Halogens (TOX)
pH	
Specific Conductance	

AUTHORIZATION:

CEI will need your authorization to proceed as soon as possible. Authorization to proceed can be initiated by signing the CEI Proposal Acceptance/Acknowledgment Page (page thirteen) of the enclosed contract forms and returning the original contract and proposal to CEI (in order to expedite a project, a signed Acceptance/Acknowledgment form may be faxed to CEI at 312/346-6956, however, the executed contract must be subsequently mailed to CEI by the Client). Please retain a photocopy of the contract for your records.

DURATION OF PROPOSAL:

It is understood that the estimated costs reflected in this proposal are valid for a period of thirty (30) days. Unless accepted prior to the expiration of said 30-day period, CEI reserves the right to review the proposed basis of charges and fees to allow for changing costs as well as to adjust the time of performance to conform to work loads. No contract between the parties shall arise until this proposal is acknowledged by a



CARLSON ENVIRONMENTAL, Inc.

Robertson-Ceco Corporation
c/o Mr. Cliff Lake
McBride Baker & Coles

P-6037R

representative of CEI as provided on page thirteen, CEI Proposal Acceptance/Acknowledgment form.

COSTS:

CEI works on a time and materials basis according to the enclosed rate schedule. The estimated project cost for 30 years of quarterly ground water monitoring is **\$376,972.89** (see attached worksheet for cost estimate calculation). The estimated cost for this scope of work assumes that any water generated during the ground water monitoring event, prior to sampling, will be disposed of on-site and will not be containerized.

Estimates for subsequent investigations, if required, and/or site remediation are dependent on information collected during this assessment and can be quoted upon completion of the activities proposed herein.

The attached Payment Terms shall apply to the services proposed herein and all agreements between CEI and Client.

CEI appreciates the opportunity to provide the Robertson-Ceco Corporation, with this proposal. Should you have any questions regarding this proposal or other CEI environmental service capabilities, please do not hesitate to contact me or Richard Carlson at 312/346-2140.

Sincerely,

CARLSON ENVIRONMENTAL, INC.

Edward E. Garske, CHMM
V. P. of Operations

Enclosures

November 1, 1995

Page 3 of 13



CEI PAYMENT TERMS

1. Invoices shall be payable upon receipt. All outstanding balances remaining unpaid thirty (30) days after the invoice date shall be subject to interest at the rate of 1.5 percent per month or the maximum permissible under applicable law, whichever is less, starting from the invoice date and continuing until paid in full. Payments received will be applied first, to collection costs (including reasonable attorney's fees), if any, second to accrued interest and the balance of the payment, to any unpaid fees.
2. CEI may, after giving seven (7) days written notice, suspend services under this agreement, without liability, until all past due amounts (including collection costs, reasonable attorneys' fees, fees and interest accrued) have been paid. Time is of the essence in payment of invoices, and timely payment is a material part of the consideration of any agreement between CEI and Client.
3. All rates are stated, and shall be paid, in United States Dollars.
4. All invoices not contested in writing within ten (10) business days of receipt are deemed accepted by the Client as true and accurate and are payable in full.



CEI TERMS AND CONDITIONS
FOR ENVIRONMENTAL SERVICES

1. Project Scope. Except as provided in Paragraph 3, the project scope will not be altered without mutual written agreement. For many projects some activities are often initially not fully definable. Unless the proposal provides otherwise, the proposed fees constitutes CEI's estimate of the fees required to complete the project as defined. Consequently, the fees estimated in the proposal shall not be deemed to be either a guaranteed maximum or a "guaranteed-not-to-exceed" amount with respect to the costs of performing the services identified in the project scope. In the event that the parties mutually agree in writing to change the scope of services described herein, cost differentials will be calculated based upon the attached Schedule of Standard Fees. If CEI personnel are called or subpoenaed for depositions, examinations, or court appearances, CEI shall be reimbursed on a time and materials basis for such matters and including all out-of-pocket costs incurred in connection with such matters.
2. Force Majeure. Costs and time schedule commitments in this proposal shall be subject to renegotiation for unreasonable delays caused by the Client's failure to provide specified facilities or information, or negligent acts or omissions of the Client or other contractors of the Client, delays authorized by the Client, or for delays caused by occurrences beyond CEI's control or force majeure, including but not limited to fires, floods, strikes, riots, explosions, adverse weather conditions not reasonably anticipated, unavoidable casualties, unavailability of labor or materials or services, process shutdown, acts of God or of the public enemy, courts orders, or acts, orders or regulations of any governmental agency. Work stoppage or interruption caused by any of the above may result in additional costs (reflecting a change in project scope) beyond that outlined in this proposal for performance of the work, entitling CEI to an adjustment to the cost and schedule.
3. Termination. Except as provided in the CEI Payment Terms, this agreement may be terminated in whole or in part in writing by either party in the event of a material failure by the other party to fulfill its obligations under this agreement through no fault of the terminating party, provided that no such termination may be effective unless the other party is given: (a) not less than ten (10) calendar days written notice of intent to terminate describing in detail the alleged breach; and (b) an opportunity for consultation with the terminating party prior to termination. In the event the breach is not cured within said 10-day



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period or such longer period as agreed upon in writing, this agreement shall terminate. A final invoice will be calculated on the first or fifteenth of the month (whichever comes first) following the receipt of a termination notice (the effective date of termination). The final invoice shall be calculated as follows.

- (i) Where the method of payment is based on a "lump sum," the final invoice will be based on the percentage of work completed to the effective date of termination.
- (ii) Where the method of payment is based on time and materials, the final invoice will be based on reimbursements for all services and expenses associated with the project up to the effective date of termination.
- (iii) Where the method of payment is based on the cost plus a fixed fee, the final invoice will be based on reimbursement for all costs incurred to the effective date of termination and a pro-rata share of the fixed fee.

4. Insurance.

- (a) CEI shall maintain policies of insurance for the coverages shown on a Certificate of Insurance to be provided by CEI.
- (b) Upon the mutual agreement of CEI and the Client, CEI shall procure and maintain one or more policies of insurance in addition to the types of insurance described on the insurance certificate, if available, or procure policies of insurance coverage of the same type with increased policy limits, or name the Client as an additional insured, or furnish a bond to the Client. Additional premiums and costs incurred by CEI in connection with obtaining such additional or different policies of insurance or a bond or naming the Client as an additional insured shall be borne solely by the Client as an additional expense and cost of the services to be provided by CEI under this agreement, and the Client shall reimburse CEI for such additional insurance or bond expenses upon request by CEI. CEI shall, at the Client's request, provide the Client with a certificate of insurance or other satisfactory evidence that such additional insurance has been



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obtained and that such policies or bonds are maintained in force throughout the period in which CEI provides services to the Client under this agreement.

5. Indemnification of Client. CEI shall indemnify, defend and hold harmless the Client from any claims, costs (including reasonable attorneys' fees and court and arbitration costs), expenses, direct or indirect, causes of action, penalties, liabilities, losses and damages actually sustained and incurred by the Client, or for which the Client is legally liable, which are caused solely by the acts, errors or omissions of CEI, its employees or agents which constitute negligence or willful misconduct in connection with the project. Notwithstanding any other provision herein, CEI shall not be liable, and shall have no obligation to indemnify the Client for any claims, costs (including reasonable attorneys' fees and court and arbitration costs), expenses, direct or indirect, causes of action, penalties, liabilities, losses and damages, including but not limited to consequential or incidental damages arising out of or which, in the aggregate, exceed \$1 million or, the total compensation received by CEI hereunder, whichever is less, and the Client hereby forever releases and discharges CEI, its directors, officers, shareholders, employees and agents from any liability from claims, costs (including reasonable attorneys' fees and court and arbitration costs), expenses, direct or indirect, causes of action, penalties, liabilities, losses and damages sustained and incurred by the Client in excess of such amount. Under no circumstances shall CEI have any obligation to pay any losses or damages for delay, lost profits, or other consequential or incidental damages of any kind or nature regardless of whether CEI or its officers, employees or agents knew or should have known that such damages may occur.
6. Indemnification of CEI.
 - (a) The Client agrees to indemnify, defend and hold harmless CEI and its directors, officers, shareholders, employees, agents and subcontractors from any claims, costs (including reasonable attorneys' fees and court and arbitration costs), expenses, direct or indirect, causes of action, penalties, liabilities, losses and damages actually sustained and incurred by CEI, or for which CEI is found to be legally liable, arising from, alleged to arise from or caused by, in whole or in part, the negligence or other acts, errors, or omissions of the Client, its independent contractors (other than CEI), employees or agents, or any third party in connection with the project, and notwithstanding whether



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CEI is determined to be partly, or together with such Client, its independent contractors, employees or agents or any third party, jointly negligent, or which arise from the Client's failure to perform its obligations under this agreement. Thus, Client does not agree to indemnify, defend and hold harmless CEI for any such matters where CEI is determined to have been solely negligent or to have engaged in willful misconduct with respect to such matter.

- (b) CEI has neither created nor contributed to the creation or existence of any type of hazardous or toxic wastes, materials, chemicals, compounds, or substances, or any other type of environmental hazard or pollution, whether latent or patent, or the release thereof or the violation of any laws or regulation relating thereto at the Client's premises or in connection with the project, and the Client forever discharges and releases CEI from all liability therefor. The Client shall indemnify, defend and hold harmless CEI and its affiliates, directors, officers, shareholders, employees, agents and subcontractors from any and all claims, costs (including reasonable attorneys' fees and court and arbitration costs), expenses, direct or indirect, causes of action, penalties, liabilities, losses and damages actually sustained and incurred by CEI in connection with the creation or existence of any type of hazardous or toxic wastes, materials, chemicals, compounds, or substances, or any other type of environmental hazard or pollution, whether latent or patent, or the release thereof or the violation of any law or regulation relating thereto at the Client's premises or in connection with the project or for which CEI is found to be legally liable, and notwithstanding whether CEI is determined to be partly, or together with Client or any other person or entity, jointly, negligent, except to the extent that such claims, costs (including reasonable attorneys' fees and court and arbitration costs), expenses, direct or indirect, causes of action, penalties, liabilities, losses and damages are solely caused by CEI's sole negligence, or willful misconduct in performing services under this agreement. This indemnification of CEI extends to claims against CEI which arise out of, are related to, or are based upon, the release of any contaminant or pollutant, whether sudden or not.
- (c) The Client recognizes that it may be impossible for CEI to know the exact composition of a project site's subsurface even after employing the most comprehensive exploratory program



reasonably possible. As a result, there is a risk that certain drilling and sampling processes may result in contamination of certain subsurface areas by linking various stratigraphic units not previously connected. Provided that CEI has used reasonable efforts to prevent and minimize such an event, was not solely negligent and did not engage in willful misconduct, in performing such drilling or sampling, the Client agrees to indemnify, defend and hold harmless CEI and its affiliates, directors, officers, shareholders, employees, agents and subcontractors against any claims, costs (including reasonable attorneys' fees and court and arbitration costs), expenses, direct and indirect, causes of action, penalties, liabilities, losses and damages arising from or alleged to arise from such cross-contamination, notwithstanding whether CEI is determined to be partly, or together with Client or any other person or entity, jointly negligent, and releases and waives any claim it may have against CEI as a result thereof.

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CARLSON ENVIRONMENTAL, Inc.

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9. Ownership of Documents. Survey data, field notes, maps, computations, studies, reports, drawings and specifications prepared by or for CEI are and shall remain the property of CEI. Such materials are not to be used by the Client on other projects or extensions of this project except upon prior written consent of CEI. Such materials are not to be used or relied upon by any third party without the written consent of CEI. CEI may, upon default by the Client hereunder, withhold the delivery of any documents in its possession pending the cure of such default.
10. Client's Responsibilities.
 - (a) The Client shall furnish or cause to be furnished to CEI all material documents and information known to the Client or in its possession or control that relate to the identity, location, quantity, nature or characteristics of any hazardous materials or suspected hazardous materials on or under the project site and all reports, data, studies, plans, surveys, specifications and other information concerning surface and subsurface project site conditions in Client's possession or control which are necessary for proper performance of this agreement.
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with safe excavation/drilling activity. Therefore, in the event that such activity is performed by CEI, the Client shall disclose the presence and accurate location of all Subsurface Objects, relative to any proposed field excavation, test boring, well installation or other subsurface work which is the subject of this agreement. These identifications shall be by field tests by the Client, or be arranged by the Client with local utility companies, and shall be provided through the use of stakes and/or ground markings in the field. CEI will provide all necessary instruction to its field crews to stay at least 3 feet away from such identifications and location markings provided by the Client. The Client agrees to indemnify, defend and hold harmless CEI and its affiliates, directors, officers, shareholders, employees, agents, and subcontractors from all claims, losses, penalties, liabilities, causes of action, costs (including reasonable attorneys' fees and court and arbitration costs), expenses and damages resulting from damage to Subsurface Objects owned by the Client, the site owner or a third party occurring in the prosecution of the work by CEI, or its agents or subcontractors, where the presence and exact locations of said Subsurface Objects were not revealed accurately to CEI, except to the extent CEI was negligent or engaged in willful misconduct in damaging such subsurface objects, and shall, at the option of CEI, defend CEI and its agents and subcontractors and their respective officers, employees and agents, at the Client's sole expense in any litigation involving the same.

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14. RCRA and CERCLA Status. Nothing contained within this agreement shall be construed or interpreted as requiring CEI to assume the status of a generator, or a storage, treatment or disposal facility as those terms



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15. Notices. Any notice to be given under this agreement shall be in writing and shall be deemed given and received when delivered in person or deposited in the United States mail, certified mail, with postage prepaid, return receipt requested.
16. Applicable Law. The validity, interpretation and performance of this agreement shall be governed by and construed in accordance with the laws of the State of Illinois. The parties agree that the services provided pursuant to this agreement shall not be subject to the provisions of the Uniform Commercial Code.
17. Severability. If any provision of this agreement, or application thereof to any persons or circumstance, shall to any extent be held invalid, the remainder of this agreement or the application of such provision to persons or circumstances other than those as to which it is held invalid, shall not be affected thereby and each provision of this agreement shall be valid and enforced to the fullest extent permitted by law.
18. Survival. The terms and provisions of Paragraphs 6 through and including Paragraph 18 shall survive the termination or expiration of this Agreement between Client and CEI.



CARLSON ENVIRONMENTAL, Inc.

CEI PROPOSAL ACCEPTANCE/ACKNOWLEDGMENT

_____ ("Purchaser") acknowledges that the CEI proposal number P-6037R including the terms and conditions and attachments which are referenced below, constitutes the entire agreement between the parties and may not be supplemented, modified, superseded or otherwise altered, by any terms or conditions contained in any purchase order, requisition, notice of authorization to proceed, pre-printed form or other document of Purchaser.

- * CEI Payment Terms - 1 page
- * CEI Terms and Conditions for Environmental Services - 8 pages

By _____
Purchaser's Authorized Representative
(Please Print)

(Signature)

Date _____, 1995

Address of Purchaser's Authorized Representative

CEI ACKNOWLEDGMENT

CEI hereby acknowledges Client's above authorization to proceed, and agrees to perform the project work described in the subject CEI proposal.

By _____

Date _____, 1995

AI 4.00% 28 Years

10-31-1995 15:52:27 Pg 1

Compounding interval: Quarterly

Annual percentage rate.....: 4.000%
Effective annual rate.....: 4.060%
Rate per compounding period.: 1.0000%
Equivalent daily rate.....: 0.01096%

Valuation date: 10-01-1995 Value: \$ 376,972.89

CASH FLOW DATA

First date	Payment amount	-#-	Interval	Last date
10-01-1995	\$ 5,555.00	112	Quarterly	07-01-2023

AMORTIZATION SCHEDULE - Normal amortization

Pmt	Date	Payment	Interest	Principal	Balance
				Balance at 10-01-1995	376,972.89
1	10-01-1995	5,555.00	0.00	5,555.00	371,417.89
1995 totals		5,555.00	0.00	5,555.00	



CARLSON ENVIRONMENTAL, Inc.

UNIT COSTS

Quarterly Ground Water Monitoring (P-6004)

- Laboratory: \$500 per sample for prescribed parameters;
- Two-person field crew: \$110 per hour.

RCRA Facilities Investigation (P-6005)

- Drilling Services: \$1,725 per day, including all materials, mobilization and decontamination;
- Laboratory: Costs enumerated in P-6005.

CEI Hourly Labor Rates

Richard Carlson, Principal	\$175
Edward Garske, Project Manager	\$135
Kenneth James, P.E., Senior Engineer	\$110
Peter Barys, Senior Hydrogeologist	\$100
Valerie Farrell, Staff Scientist	\$95
Margaret Kilian, Staff Engineer	\$85
Elizabeth Seltzer, Staff Scientist	\$65
Samuel Bodine, Staff Scientist	\$65
Bruce Shabino, Staff Geologist	\$50
Phillip Hoeksema, Technician	\$45





CARLSON ENVIRONMENTAL, Inc.

FEE STRUCTURE

November 1995

Personnel

Rate

Officer/Project Director	\$125-175/hour
Project Manager	\$ 90-125/hour
Sr. Scientist/Engineer/Geologist	\$ 80-120/hour
Staff Scientist/Engineer/Geologist	\$ 55-75/hour
Technician	\$ 45-55/hour
Clerical	\$ 35-50/hour

Protective Equipment

Level D	\$15/person/day
Level C	\$80/person/day
Level B	\$150/person/day

Field Equipment

Organic vapor analyzer	\$100/day
Photoionization detector	\$80/day
pH, specific conductivity, temperature	\$20/day/instrument
Water level meter	\$20/day
Combustible gas indicator	\$40/day
Bladder pumps and tubing	\$175/day
Sediment sampler	\$100/day
Soil gas sampling equipment	\$50/day
Hand sampling equipment	\$15/day
Motor vehicle	\$35/day plus \$.35/mile
Cellular phone	\$25/day
Camera/photos	\$25/day
Surveying equipment	\$50/day
Magnetometer	\$35/day
AMS Soil Sampling (Hand Auger)	\$50/day
Groundwater Purge Pump	\$25/day
Hermit Data Logger	\$125/day

Other

Direct expenses attributable to project (e.g., lodging, meals, transportation, supplies)	Cost plus 10%
Subcontracted services and equipment rental	Cost plus 20%



TABLE ONE
Summary of Total Metals and Water Quality Parameters¹
Dudek Site, Waste Storage Area
Lemont, Illinois

Well Number MW-D1, an up-gradient well

Parameter	Units	Quarter Number and Sample Date							
		1 4/29/93	2 ² 8/3/93	3 ² 2/3/94	4 ² 5/6/94	5 9/15/94	6 12/14/94	7 3/22/95	8 ² 7/6/95
Arsenic (total)	mg/L	ND	ND	ND	ND	ND	ND	ND	ND
Barium (total)	mg/L	0.054	0.052	0.037	0.036	0.035	0.028	0.029	0.023
Cadmium (total)	mg/L	ND	ND	ND	ND	ND	ND	ND	ND
Chromium (total)	mg/L	0.02	0.02	0.01	0.02	0.01	ND	ND	ND
Hexavalent Chromium	mg/L	0.02	ND	ND	0.04	ND	ND	ND	ND
Lead (total)	mg/L	ND	ND	ND	ND	0.003	ND	ND	ND
Mercury (total)	mg/L	ND	ND	ND	ND	ND	ND	ND	ND
Selenium (total)	mg/L	ND	ND	ND	ND	ND	ND	ND	ND
Silver (total)	mg/L	ND	ND	ND	ND	ND	ND	ND	ND
Chloride	mg/L	81	54	41	40	33	31	31	33
Iron (total)	mg/L	0.62	0.7	0.77	1.1	4.4	2.8	0.49	1.5
Manganese (total)	mg/L	0.18	0.19	0.15	0.13	0.16	0.12	0.10	0.094
Phenolics	mg/L	ND	ND	0.02	ND	ND	ND	ND	0.07
Sodium (total)	mg/L	76	79	57	58	32	34	31	27
Sulfate, turbidimetric	mg/L	270	270	270	290	270	270	270	290
Carbon, organic - nonpurgeable	mg/L	8	4	2	5	3	2	13	17
Halogens, total organic	ug/L	32	25	19	24	10	18	20	34
pH	units	7.0	7.1	7.6	7.7	7.3	7.3	7.4	7.3
Specific conductance at 25 C	umhos/cm	1,300	1,500	1,400	1,500	1,200	1,400	1,500	1,400

ND - parameter not detected (concentration was below laboratory detection limits)

mg/L - milligrams per liter

ug/L - micrograms per liter

umhos/cm - micromhos per centimeter

¹ Data presented in Table One is summarized from quarterly ground water monitoring reports prepared by Halliburton NUS Corporation on behalf of The Robertson-Ceco Corporation.

indicates replicate and/or duplicate sampling was conducted. The highest reported value is listed in Table One.

TABLE ONE -- Continued
Summary of Total Metals and Water Quality Parameters¹
Dudek Site, Waste Storage Area
Lemont, Illinois

Well Number MW-D2, a down-gradient well

Parameter	Units	Quarter Number and Sample Date							
		1 4/29/93	2 8/3/93	3 2/3/94	4 5/6/94	5 9/13/94	6 ² 12/14/94	7 3/22/95	8 7/6/95
Arsenic (total)	mg/L	ND	ND	ND	ND	ND	ND	ND	ND
Barium (total)	mg/L	0.041	0.051	0.032	0.031	0.028	0.028	0.022	0.019
Cadmium (total)	mg/L	ND	ND	ND	ND	ND	ND	0.005	ND
Chromium (total)	mg/L	0.02	0.02	ND	0.02	ND	0.02	0.01	ND
Hexavalent Chromium	mg/L	ND	ND	0.01	0.01	ND	ND	ND	ND
Lead (total)	mg/L	ND	ND	ND	ND	ND	ND	ND	ND
Mercury (total)	mg/L	ND	ND	ND	ND	ND	ND	ND	0.0002
Selenium (total)	mg/L	ND	ND	ND	ND	ND	ND	ND	ND
Silver (total)	mg/L	0.02	ND	ND	ND	ND	ND	ND	ND
Chloride	mg/L	14	8	6	7	5	7	6	5
Iron (total)	mg/L	1.4	1.1	0.27	0.96	0.06	0.02	ND	ND
Manganese (total)	mg/L	0.26	0.4	0.053	0.083	0.02	0.023	ND	ND
Phenolics	mg/L	ND	ND	ND	ND	0.01	ND	0.02	ND
Sodium (total)	mg/L	28	24	21	23	23	23	21	19
Sulfate, turbidimetric	mg/L	390	370	270	270	250	250	220	240
Carbon, organic - nonpurgeable	mg/L	2	2	4	3	1	1	10	1
Halogens, total organic	ug/L	ND	ND	ND	ND	ND	26	41	17
pH	units	7.2	7.4	8.4	8.7	9.0	8.8	8.9	8.7
Specific conductance at 25 C	umhos/cm	1,100	1,000	740	820	740	800	840	800

ND - parameter not detected (concentration was below laboratory detection limits)

mg/L - milligrams per liter

ug/L - micrograms per liter

umhos/cm - micromhos per centimeter

¹ Data presented in Table One is summarized from quarterly ground water monitoring reports prepared by Halliburton NUS Corporation on behalf of The Robertson-Ceco Corporation.

² indicates replicate and/or duplicate sampling was conducted. The highest reported value is listed in Table One.

TABLE ONE -- Continued
Summary of Total Metals and Water Quality Parameters¹
Dudek Site, Waste Storage Area
Lemont, Illinois

Well Number MW-D3, a down-gradient well

Parameter	Units	Quarter Number and Sample Date							
		1 4/29/93	2 8/3/93	3 ² 2/3/94	4 ² 5/6/94	5 9/13/94	6 12/15/94	7 3/22/95	8 7/7/95
Arsenic (total)	mg/L	ND	ND	ND	ND	ND	ND	ND	ND
Barium (total)	mg/L	0.068	0.067	0.050	0.03	0.022	0.021	0.015	0.014
Cadmium (total)	mg/L	ND	ND	ND	ND	ND	ND	ND	ND
Chromium (total)	mg/L	0.03	0.18	0.13	0.05	ND	ND	ND	ND
Hexavalent Chromium	mg/L	ND	ND	ND	ND	ND	ND	ND	ND
Lead (total)	mg/L	ND	ND	0.11	ND	0.003	ND	ND	ND
Mercury (total)	mg/L	ND	ND	ND	ND	ND	ND	ND	ND
Selenium (total)	mg/L	ND	ND	ND	ND	ND	ND	ND	ND
Silver (total)	mg/L	ND	ND	ND	ND	ND	ND	ND	ND
Chloride	mg/L	240	160	27	57	27	30	27	37
Iron (total)	mg/L	1.5	2.1	5.6	1.7	1.4	2.3	0.61	0.44
Manganese (total)	mg/L	0.46	0.51	0.46	0.19	0.26	0.16	0.091	0.088
Phenolics	mg/L	ND	0.005	ND	ND	ND	ND	ND	ND
Sodium (total)	mg/L	100	74	37	37	29	30	29	29
Sulfate, turbidimetric	mg/L	390	400	290	320	330	310	270	310
Carbon, organic - nonpurgeable	mg/L	5	3	1	2	2	2	9	2
Halogens, total organic	ug/L	11	21	ND	ND	ND	28	56	25
pH	units	7.3	7.0	7.7	7.5	7.6	7.5	7.9	7.4
Specific conductance at 25 C	umhos/cm	1,600	1,700	1,100	1,400	1,000	1,100	1,100	1,200

ND - parameter not detected (concentration was below laboratory detection limits)

mg/L - milligrams per liter

ug/L - micrograms per liter

umhos/cm - micromhos per centimeter

¹ Data presented in Table One is summarized from quarterly ground water monitoring reports prepared by Halliburton NUS Corporation on behalf of The Robertson-Ceco Corporation

Indicates replicate and/or duplicate sampling was conducted. The highest reported value is listed in Table One.

TABLE ONE -- Continued
Summary of Total Metals and Water Quality Parameters¹
Dudek Site, Waste Storage Area
Lemont, Illinois

Well Number MW-D4, a down-gradient well

Parameter	Units	Quarter Number and Sample Date							
		1 ²	2	3	4	5	6	7	8
		4/29/93	8/3/93	2/3/94	5/6/94	9/13/94	12/15/94	3/22/95	7/7/95
Arsenic (total)	mg/L	ND	ND	ND	ND	ND	ND	ND	ND
Barium (total)	mg/L	0.042	0.043	0.027	0.018	0.015	0.017	0.015	0.014
Cadmium (total)	mg/L	ND	ND	ND	ND	ND	ND	ND	ND
Chromium (total)	mg/L	0.04	0.08	0.05	0.02	0.01	ND	ND	ND
Hexavalent Chromium	mg/L	ND	ND	ND	ND	ND	ND	ND	ND
Lead (total)	mg/L	ND	ND	ND	ND	ND	ND	ND	ND
Mercury (total)	mg/L	ND	ND	ND	ND	ND	ND	ND	ND
Selenium (total)	mg/L	ND	ND	ND	ND	ND	ND	ND	ND
Silver (total)	mg/L	0.06	ND	ND	ND	ND	ND	ND	ND
Chloride	mg/L	200	160	22	47	20	19	19	23
Iron (total)	mg/L	4.4	2.9	3.3	2.5	4.3	5.0	5.3	5.2
Manganese (total)	mg/L	0.22	0.19	0.095	0.060	0.033	0.034	0.038	0.088
Phenolics	mg/L	ND	ND	ND	ND	ND	ND	ND	ND
Sodium (total)	mg/L	120	130	40	25	23	24	21	29
Sulfate, turbidimetric	mg/L	390	360	280	330	310	300	260	310
Carbon, organic - nonpurgeable	mg/L	6	3	ND	2	2	2	12	2
Halogens, total organic	ug/L	25	47	ND	ND	ND	ND	20	44
pH	units	7.2	7.1	7.6	7.5	7.6	7.4	7.8	7.3
Specific conductance at 25 C	umhos/cm	1,600	1,700	1,100	1,400	1,100	1,200	1,200	1,400

ND - parameter not detected (concentration was below laboratory detection limits)

mg/L - milligrams per liter

ug/L - micrograms per liter

umhos/cm - micromhos per centimeter

¹ Data presented in Table One is summarized from quarterly ground water monitoring reports prepared by Halliburton NUS Corporation on behalf of The Robertson-Cecco Corporation.

² indicates replicate and/or duplicate sampling was conducted. The highest reported value is listed in Table One.

TABLE ONE -- Continued
Summary of Total Metals and Water Quality Parameters¹
Dudek Site, Waste Storage Area
Lemont, Illinois

Well Number MW-D5, an up-gradient well

Parameter	Units	Quarter Number and Sample Date							
		1 ²	2 ²	3 ²	4 ²	5	6	7 ²	8
		4/29/93	8/3/93	2/3/94	5/6/94	9/15/94	12/15/94	3/21/95	7/5/95
Arsenic (total)	mg/L	ND	ND	ND	ND	ND	0.003	ND	ND
Barium (total)	mg/L	0.029	0.024	0.037	0.032	0.043	0.030	0.032	0.022
Cadmium (total)	mg/L	ND	ND	ND	ND	ND	ND	ND	ND
Chromium (total)	mg/L	0.03	0.01	0.03	0.03	ND	ND	0.02	ND
Hexavalent Chromium	mg/L	ND	ND	ND	ND	ND	ND	ND	0.02
Lead (total)	mg/L	ND	ND	ND	ND	ND	ND	ND	ND
Mercury (total)	mg/L	ND	ND	ND	ND	ND	ND	ND	0.0002
Selenium (total)	mg/L	ND	ND	ND	ND	ND	ND	ND	ND
Silver (total)	mg/L	ND	ND	0.01	ND	ND	ND	ND	ND
Chloride	mg/L	25	22	23	21	15	12	9	8
Iron (total)	mg/L	1.1	0.22	2.3	0.86	0.22	0.03	0.02	ND
Manganese (total)	mg/L	0.10	0.038	0.12	0.036	0.068	0.13	ND	ND
Phenolics	mg/L	ND	ND	ND	ND	ND	ND	ND	ND
Sodium (total)	mg/L	31	26	23	24	0.02	52	29	16
Sulfate, turbidimetric	mg/L	370	380	340	380	350	310	290	290
Carbon, organic - nonpurgeable	mg/L	3	2	3	3	2	2	2	2
Halogens, total organic	ug/L	13	19	23	13	ND	ND	67	13
pH	units	7.2	7.0	8.0	8.2	7.8	7.8	8.2	8
Specific conductance at 25 C	umhos/cm	1,300	1,300	1,200	1,300	1,000	1,100	1,200	1,100

ND - parameter not detected (concentration was below laboratory detection limits)

mg/L - milligrams per liter

ug/L - micrograms per liter

umhos/cm - micromhos per centimeter

¹ Data presented in Table One is summarized from quarterly ground water monitoring reports prepared by Halliburton NUS Corporation on behalf of The Robertson-Ceco Corporation.
indicates replicate and/or duplicate sampling was conducted. The highest reported value is listed in Table One.